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GENERAL NEWS SECTION.....

SUPPLY TRADE SECTION

state Commerce Commission under the new law. One of the really surprising things brought out by the conference is the very wide difference of opinion that exists on almost every provision of the new law. This may be accounted for by the fact that the law itself is a hodgepodge of concession and counter concessions on the part of congressmen each with his own axe to grind. It may also be accounted for by the fact that the railway interests are so varied. An interpretation that might be quite harmless for one road may well be the worst possible interpretation for another. Naturally the legal representative of a road is influenced in his choice of alternative interpretations by the interests of his particular road.

WHEN President Hays, of the Grand Trunk, a man of energy and decisiveness, faced and, for a few days, fought, a strike on his road, it seemed likely to be a battle to the finish; and, as the first real strike out of the many lately threatened, the result promised to be instructive. That he assented to a final compromise was very likely due to the peril of "sympathetic" action of labor organizations on the system; and the financial condition of the Grand Trunk, not particularly strong, may have been an accessory cause. The relative gains and losses in the antecedents of the strike, in the strike itself and the compromise reached are somewhat confusing. The earlier governmental "arbitration," so called, was a failure; but, on the other hand, the good offices of the Canadian authorities were potent in bringing the strikers and the company to terms. If not successful arbitration this was probably the next best thing. Where the company at the last appears to have had the whip hand was in the proviso practically leaving it the option in re-employment of strikers, who, moreover, forfeit the benefits of the company's pension system. That the strikers yielded these points suggests, to say the least, their disquietude over their ultimate success. In two other aspects the strike has some significance. One is the comparatively small amount of disorder and law-breaking with which the strike was attended. The other bears on the policy of the Grand Trunk in reference to its proposed New England extensions, after the immediate losses of the strike and the new financial burden to be borne in added operating expense due to increased wages. The company needs the extensions for enlarged revenue, but decreased net earnings will probably make them harder to finance at a time when new railway securities are finding a restricted market both here and abroad.

THE railway men whom we quoted in the editorial in our issue of July 15, entitled "Hopes and Fears of the New Law," referred repeatedly to the large amount of time which government regulation is compelling the higher officers of the roads to devote to the work of protecting their revenues. The tendency of government regulation to force railway executives to apply their time, thought and energies to protecting rather than to improving their properties probably is contributing more to the total cost of government regulation than everything else. Railway managers being human, they cannot do two things at once. The more thought and energy they must give to defending the roads, the less they have left to use in developing traffic and devising improvements for reducing operating expenses. Not only does government regulation as now carried on hinder the higher officers from initiating plans for increasing traffic and improving operation, but it is also interfering with their giving adequate consideration to plans worked out by their subordinates; and, of course, the important schemes of subordinates cannot be carried out until they have been digested and approved by their superiors. We are in a period of transition. Perhaps the demands on railway executives caused by anti-railway agitation and increasing regulation will in course of time grow less. It is probable also there will be developed in railway service a class of specialists in handling public relations, who will relieve the executives of much of the burden they now carry—men who, on the one hand, will so represent the public to the railways with which they are connected as to get needed improvements of service and reforms of abuses

MORE than 65 delegates, representing nearly all the large and many of the smaller roads of the United States, were at the conference of railway counsels held at Portsmouth, N. H., last week to discuss the legal questions that are presented by the new law to regulate commerce. In some cases the railways were represented by the vice-president at the head of the legal department, and the list of names of those present at the conference forms an imposing array of legal talent. While the constitutionality of some of the provisions of the new law were discussed and questioned, the main object of the conference appears to have been an attempt on the part of the best railway legal talent in the country to formulate some guiding principles in the technical interpretation of the thousand and one little points constantly coming up in the management of a railway, which may be subject to investigation and order from the Inter-

before they arouse hostile public sentiment and become the subject of proceedings before commissions and courts, and who, on the other hand, will so represent the railways to the public and before commissions and courts as to make unfair attacks on them less effective and dangerous. Meantime, the public should be reminded that for whatever reduces the efficiency or increases the cost of railway operation it must, in the long run, foot the bill in the passenger and freight rates that it pays or in the impaired service that it will receive, or in both. The public will be much more apt to get improved service at reasonable rates if it gives the railway managers a chance to devote more time to the administration of their properties than if it continues to compel them to give so much of their time to the defense of them.

CARLOAD freight roads" are proposed in a work published recently by Dr. Walter Rathenau, an economist, and Prof. William Cauer, an authority on railway transportation, whose works are much studied in Germany. They discuss them as substitutes for canals on routes where the railways are already over-crowded, and, as the result of extended calculations, declare that a double-track line devoted solely to freight, generally in full train loads moved at a uniform speed, would cost less than half as much as a canal, and could be made to pay with rates one-third to one-sixth of the present Prussian railway rates. They have applied their calculations to a line from the coal fields on the Rhine eastward to Berlin, which would take the place of a canal from the Rhine to the Elbe, which has been planned for some years, and their proposition has attracted the attention of experts in transportation. It is now many years since it was proposed to build a railway exclusively for freight from Chicago to New York, over which an almost uninterrupted succession of trains at a uniform and the most economical speed were to roll down to the seaboard, leaving no through freight at all for the lines already built. The promoters of this enterprise were not experts, and they made some serious changes in the geography and orography of the country on the proposed line; but it was easy to figure an extremely low cost, provided freight could be had for something like a hundred train-loads a day, gliding along with no passenger trains to get in their way, and few or no stops on the way to drop local freight. The German plan, however, is seriously made, by men whose calculations deserve attention. They ought to have found material for their studies in this country, where there are several lines or parts of lines which approximate the condition of lines exclusively for freight. To say nothing of the New York Central's long section of four-track road, the Steel Corporation's road from Lake Erie to Pittsburgh is an almost exclusively freight road, and shows, when traffic is heavy, an enviably low cost of transportation; and parts of the Pennsylvania's freight lines planned in Pennsylvania will be still nearer what the Germans propose. But this exceptionally low cost, or rather low price, is one of the objections raised against the German project. To have freight rates on a route between the Rhine and Berlin very much lower than on any other route would result, it is said, in the concentration on this route of all industries using large quantities of coal and iron, to the very great detriment of other places. This, however, is an argument against a canal as well. We are told that the enlarged canal between Buffalo and Troy will so nearly abolish the cost of transportation that the industries of America will be largely concentrated in the state of New York, while the interior of Pennsylvania, etc., may devote itself to rural pursuits.

THE RAILWAY OUTLOOK.

AS the current returns of earnings of American railways are scrutinized one fact stands out with increasing prominence. Gross earnings, as compared with last year, continue to show fair increases, especially when it is considered that comparison is now made with the months of 1909 when there was

a sharp rebound from the losses of the post-panic year 1908. Based on gross earnings alone there would be nothing in the situation to complain of and much to afford substantial comfort alike to railway managers and investors. And this in spite of somewhat ominous crop reports from the West and of some industrial curtailments, notably in textiles. What may be called natural conditions, apart from the crops, signify sound financial health in the railway business, with only here and there an exception, and that exception not affecting the leading railway systems as a whole. If the railways had been let alone after their stressful experiences following the panic of October, 1907, and extending through the calendar year following, there would be now something like a boom period of railway interests. This would be the case, also, were the railways given even a year or two longer in which to recuperate.

But it is just here that the prominent fact referred to has intervened. The railways have not been let alone. The time and opportunity for full convalescence has been denied them and a series of artificial conditions have been imposed. Their dawn of reviving prosperity has been obscured by new clouds. In the front has been the successful demand for increased wages, emphasized by the perils and losses by threatened strikes. Cost of supplies has increased rather than diminished; and the heavy hand of federal authority and, what is more irritating if not more serious, the incessant governmental nagging are still in vivid evidence. The logical results have come. While gross earnings increase net is not maintained. New financing is complicated not perhaps so much by positively lowered credit as by the lowered market value of new railway securities owing partly to extraneous causes. Listings of railway and traction securities have fallen off some \$200,000,000 during the first six months of the calendar year. And, finally, the effort of the railways to make good by readjusting rates upward are meeting with hot opposition from several directions at once—popular, commercial and official. Nor should it escape attention that to the increased charges for conducting transportation are added the increased charges for maintenance, to say nothing of taxes. Maintenance, which was reduced to its lowest figures during the panic period, is asserting its requirements. In June of this year the maintenance increase was nearly \$3,000,000 on ten systems only, not including some of the largest.

That such a situation should have followed what seemed a year ago the dawn of railway prosperity is a disappointment. Particularly so is the official resistance to the endeavor of the railways to meet by increased rates—almost their only relief—the waxing costs of operation. But there are some encouraging features. Governmental intervention, while still active, does not take on the aggressive, not to say hostile, character of an earlier administration which went so far as to intimate during the after-panic time that a railway strike following any decrease of wages would have federal sympathy. It is rather in the nature of a call for an official inquiry into "reasonable" rates and the continuance of the old rate meantime on interstate traffic. The delay, of course, is vexatious, but it has its limits. In the case of the demands of organized railway labor, serious though they are in the resulting financial burdens, there are two favorable signs. One is the increasing tendency toward arbitration, not only averting strikes but looking toward final abatement of what the labor organizations ask. If the ultimate outcome is compulsory arbitration rooted in law the results may be better still—particularly if they can be freed from the sinister influence of politics. But the great hope of emergence from hard conditions rests on the fundamental status of the railways themselves as an integral factor in local as well as national welfare. No vast interest of the kind can ever be unduly and unjustly assailed without reaction in a corresponding scale on the prosperity of the whole land. What becomes of public convenience, not to say necessity, if railway service is much curtailed? What follows to general business if the railway investor finds dividends reduced or his bonds in default? And where does the wage earner himself come out in the contraction of an employment fund resting on private railway investment? These are direc-

tions in which political economy, working from the rich or well-to-do down to the poor, follows inexorable law.

But we look for no such drastic solution of the railways' problems. In labor readjustments one may expect concession on both sides, with arbitration as a final expedient in avoidance of extremes. In the rate question and in relations with federal authority we need not only a decisive but a quick interpretation of the term "reasonable" under the law; and the courts will protect, in the last appeal, the right of the stockholder to a fair return on his investment. And, in general policy as regards operation, new financing, maintenance and improvements would naturally be somewhat of that system of conservatism that was compelled in 1908. Uncertainty in so many quarters as at the present time calls for a waiting policy and for restraint rather than for assertiveness.

THE CHARCOAL IRON CAR WHEEL.

EVER since 1875, and possibly even before that time, it has been asserted by those who have been troubled with wheel failures that "cast iron wheels are not as good as they used to be," but any definite information as to how good they used to be is practically impossible to obtain. It certainly is not fair to judge the wheel of to-day in comparison with the one of even 1875, on the basis of its failures, for the services rendered by the two differ greatly. It is also almost impossible to make the comparison on a purely metallurgical basis, because of a lack of data regarding the old wheels. The chemist and the refinements of the modern blast furnace were unknown and any judgment that is passed must be based upon a knowledge of general rather than specific conditions.

We simply know that cold-blast charcoal iron was used and that every attempt was made to secure the highest quality of metal obtainable for the car wheel. For example, away back in the fifties, probably about 1855, an order for the wheels of 500 freight cars for the Pennsylvania Railroad was filled at the Fort Pitt foundry in Pittsburgh. At that time cannon were being made for the government at this foundry under the direction of the late Gen. Rodman and Admiral Dahlgren. The iron used in the manufacture of the car wheels, for the order referred to, was of the same quality of pig iron as that used in the cannon. It came from the cold-blast charcoal furnaces of Bloomfield and Greenwood, located in central Pennsylvania, and from those near Hanging Rock on the Ohio river, where the Etna and Hecla brands were made.

These cold-blast charcoal furnaces had an output of but from 10 to 15 tons a day, and, owing to the slowness of the process, the ores and molten metal were brought into intimate contact with the fuel, taking up a high percentage of the carbon and thus becoming a high chilling metal due to the combined carbon thus acquired. The Greenwood iron, for instance, carried 2.83 per cent. of combined carbon out of a total of 4.14 per cent., while the silicon had been burned down to .43 per cent. The tensile strength of this pig was about 22,000 lbs. per sq. in.; a strength that was raised, by remelting the iron in an air furnace, to about 33,000 lbs.

The wheels were cast against an iron chill quite in accord with present practice, and were piled, while still hot, in the Whitney annealing pits, which had been previously heated to the temperature of the wheels, where they were allowed to cool.

As to the service which these wheels rendered there are no records. None were kept because there was no realization of the necessity for or desirability of such records and because it was generally expected that, under the light total loads of about 40,000 lbs. on eight wheels, they would outlast the car. It would be a safe guess, then, to assume their life at from 12 to 20 years. It is needless to say that such a life is unknown under present day conditions. The point is what would the same wheel do now? Pure cold-blast charcoal iron is but a memory because it gave way long ago to the warm-blast product, which is to-day its most nearly related survivor. There are still a few wheels made of a warm-blast charcoal iron, where the blast

runs from 450 to 500 degs. Fahr., and the furnace output still ranges from 15 to 25 tons a day. This condition has not changed for 30 years. Made from a brown hematite ore, melted in a charcoal furnace with a fuel consumption of 1 to 2 of ore, the pig probably varies but little from that used in making the good old wheels of the past. The ore runs about 50 per cent. of iron, and the product possesses the high chilling qualities needed for car wheel metal.

Based on past practice which was so satisfactory for the wheels of light cars, the mixture still consists of 40 per cent. of this warm-blast pig with a balance of car wheel scrap. The only change lies in the weight of the wheel, which has increased from 450 to 700 lbs. But these wheels are put under cars weighing 40,000 lbs. with a capacity of 100,000 lbs., instead of those weighing 18,000 lbs. and carrying a load of 20,000 lbs. Speeds are not only higher but the average daily mileage is probably greater, so that the stresses imposed are undoubtedly much more severe than the mere difference of loads would indicate.

From the reports of a road using these wheels, it is learned that where the removals are for purely wheel defects such as worn through the tread, shelling out, seamy treads and the like, the life ranges from 10 to 38 months, with an average of between 29 and 30 months for all wheels removed. If this life is considered on the basis of the probable ton mileage carried, and this is put at the low figure of four times that of the wheels under the light 10-ton cars, we find that the actual work done will correspond to about 10 years of service under the old conditions.

This undoubtedly falls short of what was actually done under the light cars, but is enough to indicate that the charcoal iron wheel is probably quite as good, metallurgically, to-day as it ever was.

The point is, is it good enough or can it be improved? Undoubtedly brake action and the heat resulting therefrom is responsible for much of the excessive stress put upon a wheel, and the inference to be drawn from a pamphlet issued by the Association of Manufacturers of Chilled Car Wheels is that an increase in the thickness of the plate will go far towards relieving the strains so set up and in dissipating the heat. But of the wheels removed, to which allusion has been made, it is not brake action but legitimate wear that is responsible for the major portion, so that, basing the statement upon the assertion of the manufacturer that no change has been made in methods, from the mining of the ore to the delivery of the wheel, in 30 years, it is not in a reversion to the good wheels of the past that we must look for the betterment of the cast iron wheel of to-day, but to an improvement of the present methods of manufacture and possibly in the quality of the metals used in the mixtures, though it may be said that these wheels do seem to be giving better results than others that are made under the more modern conditions of a greater tonnage all along the line from the furnace to the annealing pit. But this is another story that will be dealt with in detail at some other time.

NEW BOOK.

Railway Special Work. By Walter E. Silsbee and Percy E. Blood. McGraw-Hill Book Company, New York. 116 pages; 7 in. x 4 1/4 in.; leather. Price, \$2.

As stated in the preface, "The object of this work is to cover a field not before set forth in any book to the knowledge of the writers, namely, the calculation of frog-work and special curves for use in the shop."

The work has been well performed and the little book should be useful to many engineers, especially those engaged on electric railway work. Nothing better has appeared for the use of designers for special crossings, cross-overs, switch work, etc. An excellent introduction on the use of slide rule might have been improved by using a cut to make the description plainer. A treatment of transition curves is given, accompanied by use-

ful tables, which, while simple, is too brief and requires supplementary study for a thorough understanding.

Letters to the Editor.

CAN POLITENESS BE TAUGHT?

Albany, N. Y., August 8, 1910.

TO THE EDITOR OF THE RAILWAY AGE GAZETTE:

The publication of Mr. Bohon's communication in your issue of August 5 will probably deluge you with protests from superintendents and others.

I am not familiar with the situation west of Chicago, but, as a representative of one of the principal eastern railways, I wish to take exception to some of the statements made by Mr. Bohon. I do not believe there is a superintendent, trainmaster or any official responsible for the hiring and discipline of employees on this road who does not make a specialty of the subject of politeness to patrons. When, early in 1908, the superintendents produced a new book of rules, the vice-president and general manager, head of the operating department, dictated into the book the following rule:

"The good will and friendship of the communities served by this company are its most valuable assets; and the strongest recommendation for promotion an employee in any department can possibly have is the fact that by uniform courtesy and kindly accommodation of patrons he has secured for himself and for the railway the good will and friendship of the community in which he is located."

I venture to say that there is not an employee in train or station service on the railway who has not passed a written examination on this rule; and but few in train service who have not passed an oral examination on it a number of times.

Further than this, on April 15, 1909, the president issued a placard reading as follows:

"Co-operation between every department of this system is essential to its success. This means not only sincere, heartfelt interest in the welfare of the system as a whole, but personal friendship for the officers and employees of other departments, and an eagerness to assist all departments, so far as possible, in order that the best results for the entire system may be accomplished.

"It should be remembered, at all times, that the pay of every man in the employ of the company comes from the same source, and that only by serving the best interests of the whole system can any department serve its own best interests.

"In other words, in order to secure the most effective results for the company, and likewise for every individual in the service, it is of the utmost importance that the entire staff should work together as one harmonious family, and it is the earnest request of the management that this spirit shall prevail in all departments.

"This spirit of co-operation should extend to the relation of the road and its employees to the public. The railway cannot prosper unless the communities it serves are prosperous.

"The public judges the railway very largely by the attitude of the representative with whom they come in immediate contact. Kindly courtesy upon the part of subordinate officials and employees costs nothing to the employees, but to the railway it is an asset of very great value.

"For this reason, employees are very earnestly urged to extend to patrons of the road every possible courtesy, and to bear in mind the fact that the whole purpose of the railway is to furnish to the public the highest class of service possible, and that the character of the service—its acceptability to the public—depends in great measure upon the spirit in which it is rendered."

This placard is conspicuously posted in the office of every superintendent, assistant superintendent, trainmaster, assistant trainmaster, chief train despatcher and yardmaster and in most of the stations. So much for the rules, indicating the attitude of the management. In the actual operation there is courtesy and co-operation, as between departments, and a constant effort to promote courtesy by employees to the public. An official who fails to co-operate or who antagonizes the public does not last long, and an employee who habitually fails to "hit the ball" in these respects has short shrift. Nor do I believe this is an exception. Could we have a census or some statistics on courtesy, I think Mr. Bohon might be convicted of acute pessimism. He should look at the doughnut, and not at the hole.

MILES BRONSON,
Superintendent, N. Y. C. & H. R.

THE DUTIES OF THE CHIEF DESPATCHER.

BY A TRAIN DESPATCHER.

I have often wondered just what really constitutes the good chief despatcher. (Now that expression is a misnomer, for there are no good chief despatchers; they are all bad; the official transportation scapegoat.) I myself have been in the business of despatching trains for 25 years, much of that time as chief, and if I was really responsible for one-third of all that has been laid at my door, I surely must have been a bad one. I have long since concluded that I know mighty little about the job, yet I cannot but feel that the importance of the position and the requirements thereof have, in a great measure, been overlooked.

The chief despatcher is the superintendent's right bower, for through his hands must of a necessity pass not only all important transportation matters but other equally important division matters upon which immediate action must be taken; consequently the man occupying that position must be cool and level-headed, and equal to any emergency that may arise. Naturally his duties compel him to assume great responsibilities at times, yet if he be a man of experience and possessed of the confidence of his superintendent, he will, in a majority of cases, handle the matter with credit to himself and his superiors. If, however, as is the case in many places, he is expected to assume such responsibilities and, in case things do not pan out as anticipated, is called on to "explain why," and then "more fully" and again "we do not understand, please advise further," and on and on until the transaction becomes almost an endless chain, he soon loses confidence in his own judgment, and in the absence of any specific instructions is always at sea, so that his usefulness soon becomes impaired.

The superintendent and his chief despatcher should be very close together at all times, and the latter should feel free not only frequently to seek his superior's advice, but also to offer suggestions on all matters pertaining to his department. It is certainly to be regretted that the attitude of some superintendents make this impossible. I believe one of the greatest mistakes any official can make is to make himself unapproachable, for he thereby loses the most valuable assets of his subordinates. Many a chief despatcher when called to the office of his superior feels as if summoned before the Inquisition. He knows that the verdict will be "Guilty," and he can only wait and hope for a light sentence.

Now the conditions which bring this about are all wrong. How much better it would be if, instead of being taken to task for every little delinquency, the chief be frequently consulted in matters concerning his department, and his opinion and views solicited by his superiors. I know from experience that this method will not only inspire confidence in the chief, but bring out the very best that there is in him. If the chief despatcher does not fill his niche, then the organization is weak, no matter how strong in all other departments. Such being the case, care should first be exercised in selecting the man, then greater care taken not to destroy his usefulness by too tight a reign, or through burdening him with useless and time-killing duties.

It seems strange to me that officials so seldom recognize the extravagance in requiring a hundred and sixty dollar man to utilize time, that could so profitably be used otherwise, in compiling statements and reports, etc., which could as satisfactorily be taken care of by a much less expensive man. If these statements and reports are necessary (about many of which I have my doubts) then sufficient force should be supplied to not only compile them, but assume the responsibility for their accuracy, etc., making unnecessary any supervision on the part of the chief despatcher. A large volume of correspondence is another bane of the existence of the chief despatcher. Of course it is so much easier to write the chief for information desired rather than to dig it from the records that it is no wonder that our chief clerks take it for granted that that is the legitimate way to secure it. To my mind, the chief despatcher's time should be

given entirely to transportation matters coming under his jurisdiction. When you cover him up with such matters as mentioned above, you are simply putting sand in the cogs of well oiled machinery.

Perhaps no particular official is responsible for present conditions for we have simply been drifting into it for years, until finally the chiefship has become the unloading place, the butting-post against which land practically all complaints and kicks, no matter how high up they originate, or how much force they gather on the way down the line. "Well, what is he there for?" I shall set forth as clearly as possible what I think should be expected of him; and if these duties are well performed, the chief will be a mighty busy man.

The handling of power should be his first and most important duty. In this alone he can, by close supervision and careful manipulation, earn for his company his salary many times over. It should be his aim to secure from his power its full earning capacity, in so far as conditions and the volume of business will permit. Care should be taken, however, not to become an "extremest" in this direction, for overloading engines more often reduces than increases their capacity. Too much tonnage on a weak engine is not only a handicap to the prompt movement of freight but results in an increased cost for both running and back-shop repairs, as well as hastening the back-shopping of the engine. I am a believer in a systematic scaled rating for all engines. By that I mean a rating which will fit the engine's condition. After an engine has made a reasonable percentage of her mileage, she should not be asked to perform the same service as a brand new engine of the same class, or one right out of the back-shop. She should be favored with periodical reductions in rating until she has reached her limit and is again ready for overhauling. It seems rather unjust to charge the transportation department with tonnage which the engines are incapable of handling. However, where the conditions are such, the chief should keep in close touch with the mechanical department, and favor the weak ones to the extent of his authority. He may be taken to task by the superintendent of transportation for light tonnage, but he will be in a position to explain readily, and will not only save himself grief but make money for the company.

Handling traffic is the chief's next important duty. It is so closely interwoven with the handling of power that it is a difficult matter to separate the two. The chief's first consideration in this direction is to keep his stuff moving. He should secure advice from connecting divisions of anticipated deliveries, 10 to 12 hours in advance, and see to it that power is available to move it out without delay. If his power is insufficient to handle the business, he should not fail to bring the matter to the attention of his superiors, for blocked terminals reflect little credit on the chief, or in fact any division official, and he should always be able to show that conditions were not due to failure on his part to exact all that was due from his available power. Another important feature in the handling of traffic is the close supervision necessary to prevent the accumulation of old loads. At intermediate points, and particularly filling out points, conductors are apt to grab what tonnage they need from the loads most convenient, and the agents, in their desire to be good fellows, do not always insist on the old loads going first. Consequently if no attention is given to the matter serious and unnecessary delay occurs. By carefully scanning the daily car reports the chief can reduce such cases to a minimum.

The handling and distribution of equipment is of but little less importance than the duties heretofore mentioned. Some roads employ a car distributor, but in a majority of places this duty falls on the chief despatcher. I believe the latter is the more satisfactory arrangement. One of the greatest evils in the handling of equipment is the cross-haul. This will frequently happen unless carefully watched. Empty car mileage is expensive mileage and every mile saved is money saved.

Another great saving can be made in the release of loaded cars and the prompt loading of empties. The saving of 24 hours

in either of these cases cannot be given a monetary estimate, yet in the course of time it will amount to considerable if given proper attention at both point of origin and destination. By inspecting the daily car report, which should be required by mail from all agents and which should show all cars on hand, time and date received, whether loaded or empty, when made empty, whether loading or unloading, etc., the chief is in position to keep right in behind delays of this character and compel the agent to do his duty.

It frequently happens, in case of car shortage, that agents in order to move their stuff and satisfy patrons make requisition for more cars than they can possibly load in the 24 hour period. This, however, can be easily regulated if a check is kept on the business originating on the division, and cars furnished according to the loading capacity.

On the tonnage handled depends largely the showing of the division in monthly and yearly operating sheets, and this matter should be given very careful attention by the chief despatcher. On a majority of roads, tonnage seldom equalizes itself and the direction of heavy traffic fluctuates so frequently that if matter is not closely watched light power, or rather light tonnage, will be moving in the wrong direction. Where there is a one-way tonnage handled it is of course impossible to make as good a tonnage showing as where the movement is equal or heavy both ways. Therefore it behooves the chief to exact from his power every pound of tonnage due, in the ruling direction. One source of tonnage loss, so small that it is scarcely noticeable in the 24-hour period, yet which amounts to considerable in the course of a month or a year, is the custom of letting trains out of terminals with all the way from five to 15 tons under rating. As a rule, train and enginemen kick on over-tonnage no matter how small the excess, and the yardmaster, rather than listen to their howling, lets them out without the extra car which would mean 10 to 20 tons over rating. Now it is seldom that tonnage can be figured to the exact rating, yet I take it for granted that engines are so rated that this additional 10 or 20 tons is no imposition and therefore the chief should insist on the additional car if necessary to make the full rating. The handling of short loads is also rather a difficult tonnage proposition and sometimes requires considerable scheming to avoid loss of ton mileage. Where this traffic is too heavy for locals, a short load train should be run daily and given the overflow of short loads and filled with through stuff, being made to pick up through loads wherever short loads are set out, provided there are any to move, thus bringing the tonnage up to as near rating as possible. In connection with the tonnage question, advantage should be taken wherever practicable of the different grades on one division, and tonnage increased accordingly.

The chief despatcher must of a necessity be a veritable bureau of information, and he should therefore see that records of his office are kept in a complete and thorough manner. Not the least important of his duties is keeping his superiors advised as to conditions and what is happening on the division, of which it is to their interest to have immediate knowledge. Many things come under his personal observation which require a remedy, and he should not hesitate to call attention to them for the good of the service.

The chief should not exact too much of his trick men. On heavy tricks, where the despatcher's hands are full all the time, too much detail work spoils a good despatcher and reflects in the character of work accomplished. Of course much must necessarily be required of trick men during the absence of the chief, yet the latter should at least outline in advance to his terminals just what he desires done in the succeeding 12 hours and furnish his despatchers with an outline program, that they may know what is wanted and see that it is carried out as near as circumstances will permit.

One of the most important qualifications of the successful chief is a thorough knowledge of the numerous schedules, rates of pay, etc. He should know just how much every move made is costing the company, and should always take into consideration the most economical method of handling all situations. In

fact, he should study economy in all its different phases and make it the basis for action in all cases in so far as possible without becoming penny wise and pound foolish.

No one employee has greater need of a general all-around railway knowledge than the chief despatcher, and it has always been a mystery to me why he is so lightly considered. If there is one employee more deserving of promotion than another, it is the chief despatcher, and I cannot understand why so few of them are advanced to higher official positions. Surely the experience gained in this position qualifies him for something better, and I firmly believe he makes as good, if not a better, official than those from other departments. While he may not be able to run an engine or train, or chain up a car, yet he has a pretty good idea how it should be done. His experience as chief has not only given him a practical insight into all departments of the road, but has also taught him how to handle and deal with men.

It is not very encouraging, to say the least, to the chief despatcher who, having followed the law set down by Confucius to "Work much, eat little, sleep less," finds himself overlooked when a vacancy occurs, and it is not surprising that so many of them drop back to trick work, where eight hours constitutes a day's labor and where some comfort and pleasure can be extracted from life.

ACCIDENT BULLETIN NO. 35.

The Interstate Commerce Commission has issued accident bulletin No. 35, showing the record of railway accidents in the United States during the three months ending March 31, 1910. The number of persons killed in train accidents was 352, and of injured, 3,717. Accidents of other kinds bring the total number of casualties up to 22,332 (1,100 killed and 21,232 injured).* These reports deal only with employees on duty and passengers. The casualties to passengers also include passengers traveling on freight trains, postal clerks, express messengers, employees on Pullman cars, etc.

TABLE No. 1.—*Casualties to Persons.*

Causes.	Passen-		Em-		Total persons	
	gers.	Em-	ployees	reported	Kill'd.	Inj'd.
Collisions	11	922	103	1,004	114	1,926
Derailments	47	765	83	524	130	1,289
Miscellaneous train accidents	52	42	56	460	108	502
Total train accidents	110	1,729	242	1,988	352	3,717
Coupling or uncoupling	...	...	57	813	57	813
Other work about trains or switches	...	...	41	4,930	41	4,930
In contact with bridges, etc.	2	21	397	21	399	
Falling or while getting on or off	27	521	138	3,665	165	4,186
Other causes	18	684	446	6,503	464	7,187
Total (other than train accidents)	45	1,207	703	16,308	748	17,515
Total all classes	155	2,936	945	18,296	1,100	21,232

The total number of casualties to passengers in this quarter is swelled by two great disasters, an avalanche in the state of Washington and a derailment in Iowa, both in the month of March. The circumstances of these accidents are briefly summarized, following Table 2A. In other respects the present record shows no remarkable differences as compared with the preceding quarter or with the corresponding quarter one year ago (Bulletin 31), bearing in mind the fact that Bulletin 31 represents a time when there was still an abnormally low volume of traffic on many roads. The principally comparisons follow:

TABLE No. 1A.—*Comparisons of Principal Items with Last Bulletin and with One Year Back.*

	Bulletin	
	No. 35.	No. 34.
	No. 31.	No. 31.
1. Passengers killed in train accidents	110	39
2. Passengers killed, all causes	155	105
3. Employees killed in train accidents	242	205
4. Employees killed in coupling	57	66
5. Employees killed, all causes	945	968
6. Total passengers and employees killed, all causes	1,100	1,073
	663	583

The total number of collisions and derailments in the quarter now under review was 3,163 (1,581 collisions and 1,582 derailments), of which 218 collisions and 185 derailments affected

*The statistics here given present the record of the standard railways, for convenience called "steam roads," in distinction from electric railways. The accident statistics of those electric lines on which interstate traffic is carried, and which, therefore, are subject to the federal accident law, are summarized in the last paragraph.

passenger trains. The damage to cars, engines and roadway by these accidents amounted to \$2,607,553. Given more in detail, these facts appear as below (collisions and derailments which cause no death or personal injury and which cause not over \$150 damage to the property of the railway are not reported):

	No.	Loss.	Killed.	Inj'd.
Collisions, rear	411	\$470,488	36	650
" butting	153	350,574	53	630
" train separating	93	29,826	2	36
" miscellaneous	894	377,818	23	610
Total	1,581	\$1,258,706	114	1,926

	Derailments due to:			
Defects of roadway, etc.	318	\$215,421	8	405
Defects of equipment	711	599,590	15	204
Negligence, trainmen, signalmen, etc.	78	54,185	1	52
Unforeseen obstruction of track, etc.	126	163,868	14	245
Malicious obstruction of track, etc.	17	31,581	1	22
Miscellaneous causes	332	284,252	91	361
Total	1,582	\$1,348,847	130	1,289
Total collisions and derailments	3,163	\$2,607,553	244	3,215
Total for same quarter of 1909	2,254	1,847,202	163	2,315
" " " " 1908	2,632	1,977,419	114	2,455
" " " " 1907	3,991	3,536,110	355	4,459

Following is the usual list of Class A train accidents—all in which the damage is reported at \$10,000 or over, notable cases in which passengers are killed, and those doing damage less than \$10,000 and down to \$2,000, wherever the circumstances or the cause may be of particular interest:

TABLE No. 2A.—*Causes of 42 Prominent Train Accidents.*
[NOTE.—R stands for rear collision; B, butting collision; M, miscellaneous collisions; D, derailment; P, passenger train; F, freight and miscellaneous trains.]

No.	Class.	Kind of train.	Killed.	Injured.	Damage to engines, cars & roadways.	Reference to record.	Collisions.															
							1. R. F. & F.	2. P. & F.	3. B. F. & F.	4. B. P. & F.	5. R. P. & F.	6. B. P. & P.	7. B. P. & F.	8. B. F. & F.	9. B. F. & F.	10. R. F. & F.	11. B. F. & F.	12. R. F. & F.	13. R. P. & P.	14. B. P. & P.	15. B. P. & F.	Cause.
1. R. F. & F.	2	5	\$1,000	7	Failure to heed automatic block signal; also failure of flagman to go back with flag; brakeman's experience, 4 months. (2 drovers killed.)																	
2. B. P. & F.	1	7	2,000	13	Engineman of light engine forgot passenger train, although despatcher had occasion, in conversation with him, to mention this particular train; this engineman ran his engine into that of the opposing train, yet never saw it, although collision occurred in broad daylight; after crash engineman supposed that it was due to the explosion of boiler of his own engine.																	
3. B. F. & F.	2	3	2,642	74	Operator wrote wrong station name in order; 2 operators at other stations testify that name was correctly sent by despatcher, and that in repetition of order also the name was correctly transmitted by station operator. (See note in text below.)																	
4. B. P. & F.	0	3	5,131	11	Misreading of order by engineman.																	
5. R. P. & F.	1	16	5,420	2	Passenger train ran past automatic block signal; engineman and fireman were working on injector; engineman's experience, 41 years.																	
6. B. P. & P.	2	8	8,600	9	Collision at meeting point 2 a.m.; westbound train continued on main track contrary to its meeting order, which said it must enter sidetreck; engineman misread order.																	
7. B. P. & F.	3	9	8,671	15	Collision occurred in yard; passenger train moving backward, as is customary; an engine without train moving in opposite direction was traveling on wrong track. On rear car of passenger train—the leading car as it was moving—a passenger standing on car platform was killed. Engineman of engine without train forgot an order. This engineman decamped. The fireman was killed.																	
8. B. F. & F.	1	4	9,500	6	Extra train eastbound encroached on time of regular westbound.																	
9. B. F. & F.	2	4	10,170	70	Conductor and two enginemen disregarded an order to wait at B till 2:40 a.m.; left before that time; did not look at their watches.																	
10. R. F. & F.	2	4	10,000	5	Operator neglected to deliver order. (See note in text below.)																	
11. B. F. & F.	3	5	10,921	72	Excessive speed in fog 3 a.m.; passed automatic block signal without seeing it.																	
12. R. F. & F.	1	2	11,200	64	Train standing at station not properly protected by flag; following train approached station not under proper control.																	
13. R. P. & P.	0	2	11,640	1	Ran past station 1,500 ft.; meeting order forgotten.																	
14. B. P. & P.	0	6	13,040	43	Men in charge of freight train waiting on side track failed to identify passing trains. (See note in text below.)																	
15. B. P. & F.	0	23	13,500	12																		

No.	Class.	Kind of train.	Killed.	Injured.	Damage to engines, cars & roadways.	Reference to record.	Cause.
16.	R. F. & F.	1	2	14,000	50	Train approached station not under proper control. Engineman disregarded distant and home fixed signals; also signal given by flagman.	
17.	R. F. & F.	0	2	14,000	66	Double-header freight train running on caution card approached station not under proper control. Both engineman and conductor are held blameworthy.	
18.	R. F. & F.	1	3	14,105	42	Engineman failed to observe signals given by flagman. Flagman neglected to use torpedoes. Collision occurred on a bridge, causing bridge to fall.	
19.	R. P. & P.	0	11	29,500	40	Second train entered yard not under proper control.	
20.	B. P. & P.	8	30	30,267	44	Conductor and engineman both overlooked meeting order; both men experienced. Engineman was killed.	
Total.....							
		30	149	\$225,907			
Derailments.							
1.	D. P.	0	0	\$2,616	57	Derailed at night at derailing switch. The distant signal approaching this derail indicated clear wrongly, the arm of signal having been weighted by ice and sleet. The home signal, however, was at stop, and the engineman is held at fault for not heeding this signal.	
2.	D. P.	0	24	3,200	55	Metal brake-beam of tender dropped on track; had become detached by breaking of hanger at the eye.	
3.	D. F.	4	2	3,300	30	Cowcatcher of engine became loose and dropped so as to catch in a switch. A short time before this accident the cowcatcher, having been found loose, had been put in shape by the men in charge of the train, but they did not secure it adequately. The failure to discover the subsequent loosening was due principally to severe cold weather and snow.	
4.	D. P.	0	6	5,300	56	Arch-bar of truck of tender broke. Speed of train 60 miles an hour; engine and all cars derailed, yet all of personal injuries were slight.	
5.	D. F.	0	0	5,700	89	Accidental obstruction. (See note in text.)	
6.	D. F.	2	1	2,500	89a	Excessive speed. (See note in text.)	
7.	D. P.	2	10	7,700	33	Excessive speed (60 miles an hour) through crossover track. Engineman and fireman killed. The crossover was suitably signaled with home and distant signals.	
8.	D. F.	0	0	9,477	81	Brake-beam fell on track. Wreck partly destroyed by fire from stoves used in freight cars to keep merchandise from freezing.	
9.	D. F.	0	0	9,600	58	Derailing switch approached at excessive speed. (See note in text.)	
10.	D. F.	1	3	9,876	59	Snowdrift.	
11.	D. P.	5	0	10,000	35	Excessive speed. Engineman and fireman killed. Conductor and engineman were men of 15 years' experience.	
12.	D. F.	0	0	10,053	54	Broken wheel. (See note in text.)	
13.	D. F.	0	0	10,200	28	Broken flange.	
14.	D. F.	0	0	10,295	83	Broken wheel; chill crack in tread.	
15.	D. F.	0	0	10,897	61	Broken rail.	
16.	D. F.	2	2	12,000	85	Driving-wheel brake rigging caught on stiffener rail at entrance to side track.	
17.	D. D.	0	0	12,000	86	Failure of bridge. The bridge in question was known to have been weakened by a flood and orders had been issued forbidding its use by engines of a certain weight. Disobedience of this order is given as the cause of the accident.	
18.	D. P.	51	44	12,558	90	Unknown. (See note in text.)	
19.	D. F.	3	2	13,000	36	Runaway train on 3 per cent. descending grade; supposed bad management of air brakes. Fireman killed; engineman badly injured.	
20.	D. F.	0	0	14,422	27	Undiscovered.	
21.	D. F.	0	0	15,260	52	Broken rail. Wreck partly destroyed by fire from stove and by explosion of 1 car of powder and 2 cars of oil.	
22.	D. P.	1	51	31,523	87	Rock slide.	
Total.....							
		71	145	\$221,477			
Grand total.101 294 \$447,381							

The worst railway accident in the present record is classed as neither a collision nor a derailment. A passenger train and a mail train halted at a station because of snow blockades along the line, were swept down the side of a mountain by an avalanche, and 90 persons were killed and 16 injured. These casualties are classified as follows: Passengers, killed 51, injured 7; mail clerks and persons carried on contract, killed 13, injured 2; trainmen, killed 22, injured 6; other employees, killed 4; in-

jured 1. This disaster occurred in the state of Washington on March 1, at a point where no serious snowslides had occurred before since the settlement of that region.

Another disaster, belonging in the same class with this, but without loss of life, occurred in Nevada, January 1, when a freight train of 36 cars, having been stopped because of washouts on the track ahead of it, was swept away by a great flood. This train had been proceeding slowly, all bridges being examined before crossing, on account of high water, when a washout was encountered. The train was stopped and the conductor went ahead afoot to the next telegraph station to report. While the train was standing a flood arose, the force of which was sufficient to turn the engine over on its side and to wash 28 loaded and 2 empty cars down the stream.

The most disastrous derailment in the quarter under review was that entered in the table as No. 18, in which 45 passengers, 5 trainmen and 1 other employee were killed, and 33 passengers and 3 employees were injured. It is reported by the railway company as having been due to some cause not discovered. Two trains, Nos. 19 and 21, of the Chicago, Rock Island & Pacific were being run over the Chicago Great Western because of a blockade on the Rock Island road. The combined train consisted of 2 engines and 10 cars, the engines moving tender first. The derailment occurred between Green Mountain and Gladbrook, Iowa, March 21. It happened in a cut where the ground at the side of the track was soft, so that the tender of the leading engine, when it jumped the rails, was embedded in the earth so as to make an almost impassable obstacle, against which the rest of the train was forced with undiminished momentum, the engineman having had no time to apply the brakes.

The trains in question were run over the Chicago & North-Western from Cedar Rapids to Marshalltown, and were delivered to the Chicago Great Western at Marshalltown. Being headed west, it was necessary to detach the engine from the west end of the train and attach them to the east end to proceed eastward over the Chicago Great Western. The man assigned by the Chicago Great Western as pilot called upon the dispatcher at Des Moines, Iowa, for orders. The Chicago Great Western had no table upon which to turn the engines at Marshalltown, but had a Y there. The pilot, however, reported to the dispatcher that he did not believe he could turn the engines on this Y because, as he believed, the curvature was too sharp. After some minor conversation the dispatcher told him that if he could not turn the engines to move them backward. They were switched around the train and started for Waterloo, running tender first. Between Green Mountain and Gladbrook, while running at a speed of probably 22 miles an hour—witnesses varying in their statements, giving the speed from 20 to 25 miles—the leading engine, without warning, left the track in a cut and plunged into the bank, being followed by the second engine. The engines were both in first-class condition, having been duly inspected before leaving Cedar Rapids, and the cars were all in good condition.

It appears that in this cut the track (roadbed) was somewhat soft and spongy, and it may have been this condition of the track that caused the tender of the leading engine to run off. Next to the engines was a Pullman sleeping car and next to this two Chicago, Burlington & Quincy day coaches. Following these was the baggage car and then the cars from train No. 19—baggage car, mail car, coaches and sleepers. The Chicago, Burlington & Quincy car next to the Pullman car was completely telescoped and the one next to this was telescoped about one-half to two-thirds of its length. In these cars occurred all the loss of life, except two passengers who were in the sleeper, one end of which was badly damaged. Outside of these cars there was no loss of life and but little injury, except to the men on the engines. Both firemen, one engineer and the pilot were killed or died from injuries.

The conductors and enginemen of the Rock Island trains were employees of long experience. The pilot of the Chicago Great Western was a freight conductor of that road. He had

been in the train service of the road about eight years and a conductor six months.

As before stated, the railway company reports the cause of this derailment as not ascertained. The case was investigated by the board of railway commissioners of Iowa, and in a report issued by that board the conclusion is reached that "though the cause of the wreck can never be known with absolute certainty, it is indisputable that the track * * * was in a dangerous condition. It lay upon a bed of clay which was wet and springy on account of improper drainage. * * * If there be a primary cause of this wreck, in our judgment it was the soft track resulting from the season and lack of proper drainage." The commissioners believe that engines should be run backward only in the rarest cases of absolute necessity and "then at a much lower rate of speed than 25 miles an hour." They say also that if the two day coaches (next behind the Pullman car) had been in the rear of the train there would have been no such appalling loss of life. "When trains are made up the lighter cars should be in the rear."

The accident reported as derailment No. 6 was the derailment of an engine running without train, and both engineman and fireman were killed, so that the evidence as to the cause is wholly circumstantial. The superintendent concludes that the engine was running at a dangerous speed, but there was no reason for special haste and no conjecture is offered as to why the engineman was running at an unsafe rate. This engine was ditched, but its tender remained standing on the roadbed, and it was the cause of the derailment of a following train (No. 5 in the table). The engineman of the following train is not held at fault, as the road at the point of derailment is on a sharp curve, and it was impossible for him to see more than a short distance ahead. The track at this point is equipped with track-circuit automatic block signals, but the derailed tender was wholly off the rails, and, as the track had not been broken by the first derailment, the automatic signal continued to indicate safety. The freight train had been following the light engine at an interval of about twenty minutes.

Derailment No. 12 was due to a fault in a wheel of the tender of the leading engine of a double-header freight train, and the damage as reported (\$10,054) includes \$10,000 as the estimated damage to the rails in the track by the foundering of the broken wheel before the train was brought to a stop. The train was running about 20 miles an hour when a piece was broken out of the tread of the wheel, leaving a flat spot, so that it pounded and marked the rails at every revolution, and these violent shocks were sufficient in many cases to cause the rails to crack; and about 800 tons of rails were used to replace those which were found broken or defective, the train having run a considerable distance before the tender jumped the track. The damage to the engine and to the track at the point of derailment was slight. The engineman is held at fault for the damage, because his attention had been called to the noisy pounding of the wheel in ample time to prevent damage, but he continued with unabated speed. This was a cast-iron wheel, 33 in. in diameter, made June 20, 1906. The estimated weight of the tender resting on the truck in which this wheel broke was 30 tons.

Derailment No. 9, in which an eastbound freight ran off a derailing switch at considerable speed and fouled the track of another railway company, is reported as due wholly or mainly to the mistake of an engineman concerning a red light. The derailment occurred about 5 a.m., when there was a dense fog, and the engineman failed to stop the train before passing the signal which guarded the approach to the crossing of the other road, because, on sighting the red light of the stop signal, he assumed that the light was one used by an electric railway company at a point about one mile back. The engineman had passed the electric crossing without being aware of it, the light at that point being at that time extinguished. This light of the electric road is used by the men in charge of cars on that road when such cars have to cross the track of the steam railway. Since this accident this light has been made white instead of red. The engineman who thus mistook the location of signals had not worked

long on this line. He had made six round trips over the line between December 14 and the date of the accident (February 22), five of them being made eastward at night. He had also worked on a yard engine in this region for eleven days in 1907.

Collision No. 4, between a westbound freight train and an eastbound passenger train, occurred about 4 o'clock in the morning, and was due to the mistake of the engineman of the freight in reading an order and to the neglect of the conductor of the freight. The order, which was on Form 19, stated that the passenger train would wait at Y until 4:35 a.m. for the freight, but the freight engineman, in some way unexplained, got the impression that the passenger train would wait at Z, which was 6 miles farther on. The order had been delivered to the freight train (one copy to the engineman and one to the conductor) at L, while the train passed without stopping, so that the conductor and the engineman had not read it in each other's presence. The engineman had neglected to show the order to the fireman, as the rule requires. The conductor was asleep when the train approached and passed Y, and therefore took no measures to bring the train to a stop; and he had neglected to show the order to the rear brakeman, as the rule requires.

Collision No. 11, between a northbound and a southbound freight train, was due to the failure of a station telegrapher to deliver a meeting order. The northbound train was running from A to B, C, D, etc., and the meeting point was to be at C. The order for the northbound train was sent to the telegrapher at C, but in some manner he allowed it to be hidden from view by other papers on his desk, and he gave the train a signal that he had no orders for it. The report says that the despatcher is censured because he might just as well have sent the order to B or to A. Where a meeting order is so sent that it must be delivered to one or both of the trains at the station which is appointed for the meeting, the rule requires special precautions. The telegrapher must display a red flag (or light) in addition to the regular train-order signal, and he must put torpedoes on the track. In this case these precautions were not taken, and the despatcher is censured for not having required the operator to take them. The operator is held at fault for this and also for not keeping the order properly before him, and for failing to use a special lock on the train-order lever in his office, as is required of operators when they have an order for an approaching train. Both despatcher and operator have had several years' experience and had been on duty only a few hours.

Collision No. 15 was due to the failure of men in charge of a northbound freight train, while standing on a side track, to identify southbound passenger trains. The freight arrived at P about 4 a.m. to wait for three southbound passenger trains. The first of these passenger trains was behind time and the second and third preceded it. The freight started north immediately after the passage of the third passenger train, the train which should have been first being still due. It is the opinion of the investigating officers that all of the men on the freight train had been asleep while waiting on the side track (their train having been held there about two hours), and that they assumed that all three of the passenger trains had passed. It was this late passenger train with which the freight a few minutes after leaving P collided. The men in charge of the freight declare that they had not been asleep. They had been on duty 11 hours and 19 minutes and off duty before beginning that tour 29 hours and 30 minutes.

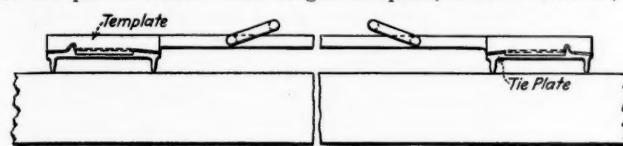
ELECTRIC RAILWAYS.

On electric railways there were reported 35 collisions and 17 derailments, in which the total damage to rolling stock and roadway was \$37,087. In train accidents two passengers and three employees were killed, and 319 passengers and 34 employees injured. Accidents of other kinds bring the total casualties up to 19 persons killed and 669 injured.

The time of the through trains between Moscow and Vladivostok, over the Siberian Railway, has been reduced 24 hours. Passengers leaving London on Monday may now reach Yokohama in 14 days and Shanghai in 16.

TIE PLATING DEVICE.

We are indebted to F. M. Graham, division engineer of the Pennsylvania Lines West at Fort Wayne, Ind., for the following description of a device for applying tie plates before the ties are put in track. The forged template, shown herewith, is

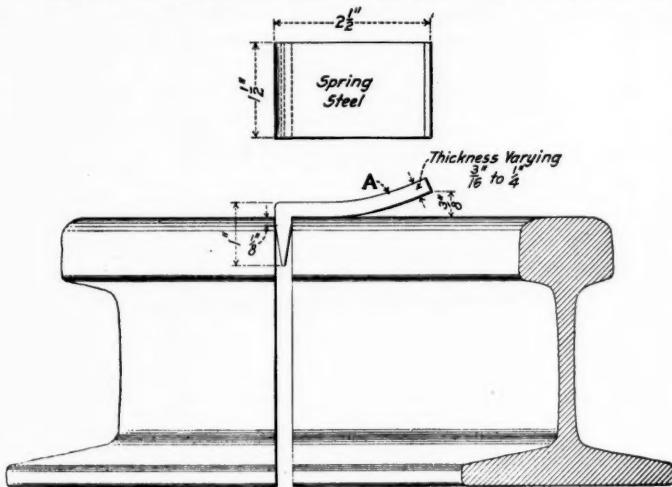


Elevation of Template for Seating Tie Plates.

designed to fit accurately the top of the tie plate, and especially the shoulder. By means of a wooden maul weighing 19 lbs., exclusive of handle, both plates are driven into the tie. In this way the plates are fully seated to precise gage without becoming twisted, as is often the case when seated by trains.

SANTA FE RAIL SHIMS.

A new rail shim has been developed by G. E. Ayer, superintendent of the Middle division of the Atchison, Topeka & Santa Fe. This shim is shown in the accompanying illustration. It is made of spring steel in such shape that after the splice has



Rail Expansion Shim.

been fully bolted, a slight blow on the end of the device loosens the wedge from the joint. The shim is made in several sizes varying in thickness from $\frac{1}{8}$ in. to $\frac{1}{4}$ in. When laying rail the ease with which this shim is removed from the joint, especially in hot weather, should show marked superiority over the shim in ordinary use.

INTERNATIONAL RAILWAY CONGRESS.

SWITCHES AND SIGNALS.

Attention has been directed in previous issues to some of the main subjects which came up for discussion at the Berne congress. Several well-known authorities contributed to the group of reports dealing with the operation of switches and signals, including L. Weissenbruch, secretary of the permanent association of the congress; L. H. N. Dufour, E. C. Carter, chief engineer of the Chicago & North-Western, and Professor Ulbricht. The latter's was a very comprehensive report dealing with signaling practice in Austria, Hungary, Bulgaria, Denmark, Germany, Sweden, Russia, Switzerland, Turkey and other countries. The reporter, who sent out a comprehensive list of questions to the various managements, in a summary of conclusions said that the newer developments in the methods of operating switches from a distance had extended more particularly in the direction of double wire transmissions, and had resulted in appliances giving results which were satisfactory from the point of view of safety. The operation of switches by means of rod

transmissions was preferred to a smaller extent, and such transmissions were less liable to fracture, the main disadvantage being that such fracture was not controlled automatically as easily as in the case of double wire transmission. Double wire transmissions were used exclusively for the operation of signals at a distance. In all the countries reported on it was recognized that the fracture of the signal wire transmission should result in the signal being placed at danger. Electric signal arm interlocking had proved a valuable auxiliary in the case of mechanical installations. Dealing with power operation, Dr. Ulbricht found that only electricity and compressed air with electrical control had given promising results as sources of power for the operation of large installations. It was noted, however, that up to the present time the number of failures was greater in the case of power-operated installations than in that of hand-operated installations. Against this had to be set the fact that with power installations a large amount of traffic could be dealt with more quickly than with hand installations, and their further extension was contemplated by those managements who had tried them on a large scale.

The report of Mr. Dufour, engineer to the company for working the Netherlands State Railways, dealt exclusively with practice in Holland. The safety appliances in the Netherlands resemble in many respects the types of appliances in use in Germany and Austria. The Holland Railway Company, by adopting candelabra semaphores in several stations, had attempted to indicate the route to be taken. With regard to power installations, Mr. Dufour said that the Stahmer electro-pneumatic appliances had not shown the disadvantages often attributed to them. The cost of such installations and of electric plant was generally higher than that of the double-wire mechanical plant, and the electro-pneumatic system was for a small number of levers more costly to install than the all-electric.

Mr. Carter dealt very briefly with the position in the United States, the main points brought out being that the application of power interlocking was rapidly increasing, and that the electro-pneumatic and all-electric systems as in other countries were beginning to supersede all other forms of power interlocking.

INFLUENCE OF WATERWAYS ON RAILWAYS.

This was the subject of several reports. G. R. Jebb, who is associated with the Birmingham Canal Navigations and the Shropshire Union Railway & Canal Company, reported for Great Britain. He showed that the canal mileage in that country is 4,763, and the chief centers of competition with railways were the Midland counties and for traffic between London, Liverpool, Leeds, Bristol and Goole. He agreed that railway companies had their rates influenced by waterways competition, but apparently the relations of railways and waterways remain more or less unchanged. Reference was naturally made by Mr. Jebb to the suggestion to put forward to construct four new main canal routes from the Midlands to the rivers Severn, Thames, Mersey and Humber. Mr. Jebb apparently regards this as a Utopian scheme, and he expressed the opinion that no fair return could be expected on the large capital outlay involved. With few exceptions, the biggest load which would be carried on the bulk of the English canals was 25 tons. Continental waterways were discussed in a voluminous report by Messrs. Colson & Marlio, and it will be interesting for those interested to compare this very complete report with that of Mr. Jebb, and note the much more important part played by waterways on the Continent.

In America apparently waterways traffic is declining to zero, canals which originally cost more than \$80,000,000 having been abandoned. Even the Erie canal, on which it was proposed to spend a large sum, had practically no effect on rates. Conditions were somewhat different on the Great Lakes, where the routes were longer, but as indicating the supersession of canals and waterways by railways it was pointed out that only 5 per cent. of the Lakes traffic was carried to its destination by water after reaching a point where rail facilities were provided. William E. Hoyt, who made the report, added some figures which partly explain the reason why the great waterways of the United States have become almost silent highways. Mr. Hoyt made an interesting comparison of European freight rates on railways

paralleling water routes in comparison with those on roads in the United States which were working under similar conditions. It was shown that not only were these rates lower in the United States, but that railway rates in the United States compared very favorably with European rates for water-borne traffic. After making allowance for the fact that waterways were generally longer than competing railways, it was shown that while the United States average rail rate was 7.54 mills per ton-mile, the average water rate in Germany was about 6.5 mills, and in France and Belgium 8 mills. These are significant figures.

ELECTRIC TRACTION.

Dr. W. Wyssling reported on this subject for Switzerland, for Great Britain and for several other countries. His report was mainly concerned with the Swiss electrically-operated lines, some of which were described in detail. Reference was also made to the experimental work being carried out in view of the contemplated conversion of some of the international lines to electric traction. It would seem to be probable that in future installations the single-phase system would be adopted.

A report by Dr. Arthur Hruschka dealt with the position in Austria and Hungary. At the end of 1909, the only electric railways in operation in these countries were secondary local railways, but two sections of standard gage railways, with a total length of 87 miles, have now been converted. Two of the existing lines were operated on the single-phase system at 2,500 and 550 volts, respectively, while the others were worked with continuous current.

Some details were given of the work of the special department of the Austrian State Railways formed to study the technical and economic aspects of electric traction on a network of 2,697 miles within the range of the available water powers. The total energy required had been calculated and it was now possible to indicate which of the large sources of water power would be required in future for railway purposes and which could be left absolutely for industrial purposes. Plans were now being prepared for lines aggregating 621 miles and for special reasons it was probable that the first lines to be converted would be the Trieste-Opcina line and the Arlberg Railway. An investigation has also been put in hand by the Hungarian State Railway and the Southern company, and the latter was contemplating the early conversion of a long main line in a mountainous district. There seemed every reason to believe that the Austrian railway authorities would probably decide in favor of single-phase current at 10,000 volts line pressure at 15 to 16 cycles per second, this choice being governed by considerations of simple overhead construction, elastic speed regulation and low installation costs.

George Gibb presented a report on the position in America with regard to electric traction, but he confined his statements to American practice in electric traction under steam railway conditions. In a brief historical survey he reminded the congress that the first example of electric traction for main line express service was the Camden to Atlantic City line, converted in 1906, while the first heavy trunk line terminal electric operation for all passenger trains was on the New York Central & Hudson River, which is to be extended to electric haulage of all trains within a 30-mile zone. Electric traction for cross country freight haulage was inaugurated in 1907 on the Spokane & Inland. In 1908 the Grand Trunk's tunnel line under the Detroit river was converted, while the main line traffic of the Pennsylvania Railroad into New York City under the Hudson and the East Rivers was about to be handled electrically. It would thus be evident that in the United States the new method of traction had been applied to a great variety of conditions met with on steam railways. It was impossible to make any general statement as to first cost of electrification which could safely be applied to individual cases, but generally speaking the cost of converting a steam road was very high under American conditions. He was able to submit figures with regard to the cost of operation. The Long Island, in 1908, operated its electric mileage at a cost of 19.80 cents per car-mile, while the steam car-mileage cost 27.95 cents. Of the total cost per car-mile, one-third was the cost of supplying power to the car, including maintenance, and of this third about one-half was the cost of the power alone. As, how-

ever, the low conditions of the power-houses were not favorable, the item for cost of power should decrease as the magnitude of the operation was extended. In general, electric traction methods in America tended to the use of multiple-unit trains for all short runs and local services. Electric locomotives were employed only where necessary, that was for long express runs outside the electric zone, for special freight service, and for terminal switching. The high acceleration possible by electrical operation on the multiple-unit system was a consideration of importance to a railway in holding a large class of traffic and in fostering its growth. Electric locomotives for heavy service were still in the experimental stage, and much remained to be done towards perfecting their design. As at present designed, electric locomotives of a given total weight and individual wheel weight were more destructive to track than the same weight distributed as in steam locomotives. Experiments carried out by the Pennsylvania Railroad showed the desirability of imitating the wheel arrangements of the steam locomotive. Attention was now being paid to the advantage of the single-phase system, and he believed that the total operating cost figure would, as experience accumulated, be found to be in favor of that system owing to its higher average efficiency and the lower operating cost of sub-stations.

The discussion which followed the presentation of these reports showed that there were still differences of opinion, one speaker claiming that continuous-current working was to be preferred for dense traffic conditions, while more than one authority deprecated the promulgation by the congress of an opinion as to the superiority of any particular system. It was urged that it was far too early a date in the history of electric traction to arrive at any sweeping conclusion of that kind.

BRIDGE RECONSTRUCTION.

On the subject of bridge reconstruction the conclusions reached by the various reporters were fairly unanimous, and they were admirably summed up in the report of Eugene Randich, engineer of the maintenance department of the Italian State Railways. This authority expressed the opinion that one could not consider the strengthening of railway bridges advantageous from the economic point of view unless the estimate for the work was appreciably lower than the cost of a new bridge put in place, and when there was likely to be a reduction rather than an increase in the cost of maintenance. In view of the advantages presented by masonry and concrete structures and the successful applications which had been made of these materials even in the case of bridges of fairly large span, it was advisable to extend their use. The use of ingot iron in the strengthening of wrought-iron bridges was of current practice. The experience gained had shown that the use of wrought iron and mild steel for strengthening purposes gave satisfactory results. Several of the reporters drew attention to the advisability of taking sufficiently into consideration the future increase in rolling loads. The average cost per ton of strengthening works was estimated by J. Schroeder von der Kolk, the reporter for Spain and Portugal, at twice the ordinary cost of new bridges.

OTHER REPORTS.

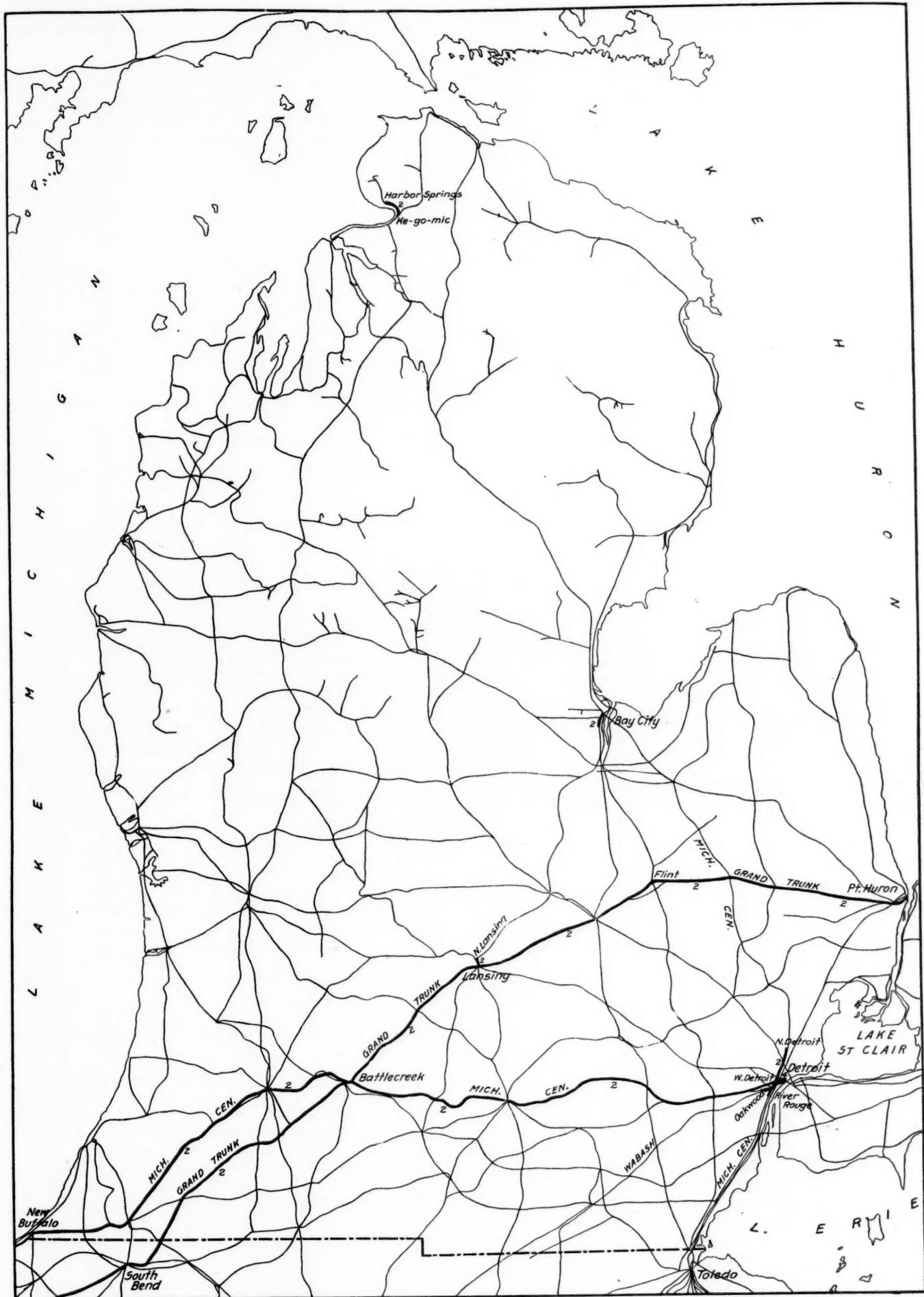
The reports abstracted in this and previous issues of the *Railway Age Gazette* are those which received particular attention at the congress. The other subjects include: large stations, road motors, rail motors, two reports on steam locomotives for very high speeds, reports on light railways, rolling stock for narrow-gage railways, transshipment, passenger tickets, and one or two other subjects.

DOUBLE TRACK RAILWAYS IN MICHIGAN.

The railways in the lower peninsula in Michigan on which there are two or more main tracks are shown in the accompanying map. On the Michigan Central there is one short stretch of four-track line.

The upper peninsula of Michigan will be shown in connection with the map of Wisconsin.

The number of tracks is indicated in the map by the thick-



Double Track Railways in Michigan.

ness of the lines in the drawing. The termini of the sections having more than one main track are as follows:

MICHIGAN.	No. tracks.	Approx. miles.
Duluth, South Shore & Atlantic.		
Marquette to Ishpeming	2	10
Grand Rapids & Indiana.		
Harbor Springs to Ke-go-mic	2	5
Grand Trunk.		
Port Huron to Chicago, Ill.	2	330
Wabash.		
Detroit to Oakwood	2	6
Michigan Central.		
Detroit to West Detroit	4	3
West Detroit to Michigan City, Ind.	2	125
Bay City Junction to North Detroit	2	..
West Detroit to River Rouge	2	3
Lansing to North Lansing	2	2
At West Bay City	2	3

MIKADO LOCOMOTIVE FOR THE ATLANTA, BIRMINGHAM & ATLANTIC.

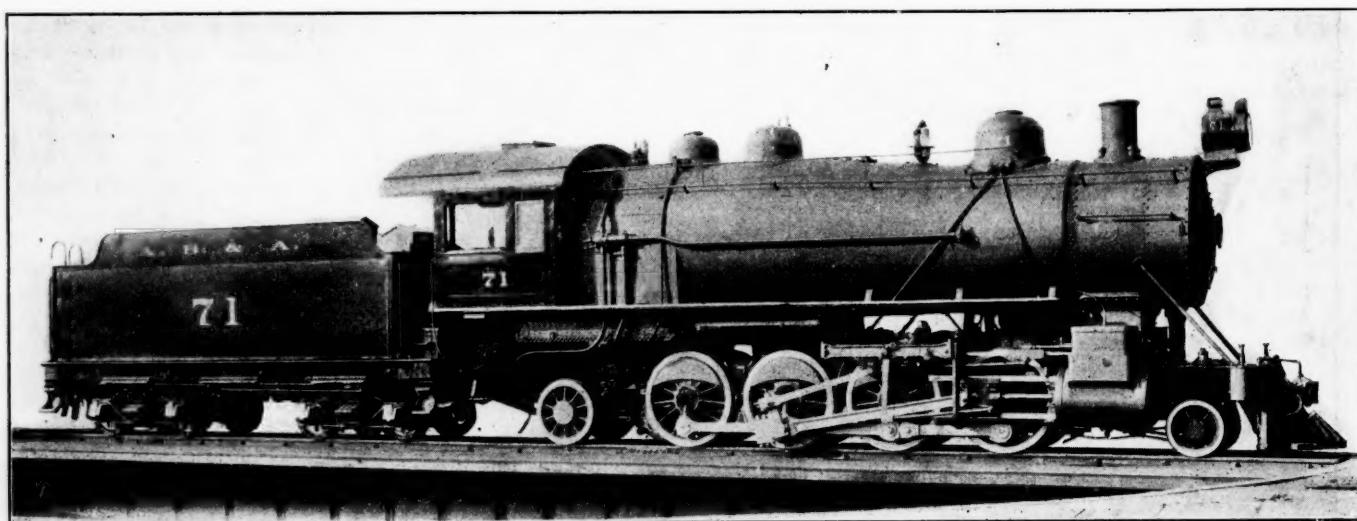
Two heavy Mikado (2-8-2) locomotives have recently been built for the Atlanta, Birmingham & Atlantic by the Baldwin Locomotive Works. They have a total weight of 260,000 lbs., of which 200,000 lbs. is on the driving wheels, and, with cylinders 25 in. diameter and 32 in. stroke exert a tractive effort of 50,800 lbs.

A conspicuous feature is the large boiler capacity provided, and the moderate pressure carried. The safety valves are set

back head slopes forward, while the throat is vertical. A total of 376 "Breakless" stays are placed in the breakage zones in the sides, throat and back, while the front end of the crown is supported on two \square bars hung on expansion links. The longitudinal barrel seams are butt-jointed and welded at the ends. The ash pan has double hoppers with sliding bottoms. The front end is arranged with a high single nozzle and adjustable petticoat pipe. The diaphragm plate is of cast iron, 18 in. in diameter.

The steam distribution is controlled by balanced slide valves operated by Baker-Pilliod gear. The steam chest centers are placed 3 in. outside the cylinder centers, this plan making possible a more convenient arrangement of the motion work. The various parts of the gear are supported by a cast steel cradle placed outside the second pair of drivers. The valves are set with a maximum travel of $5\frac{1}{2}$ in. and a constant lead of $\frac{1}{4}$ in. The outside lap is $1\frac{1}{8}$ in. and the inside lap zero.

The main frames are of cast steel, and are 5 in. wide narrowed to 4 in. back of the rear driving pedestals. Each frame is in one piece, except for the double front rails, which are iron forgings. The equalization system divides between the second and third pairs of driving wheels; the front truck is of the usual center bearing, swing bolster type, while the trailing truck is of the Rushton type, with inside journals. The frames are



Mikado Type Locomotive for the Atlanta, Birmingham & Atlantic.

at 170 lbs.—a lower pressure than is usually carried on large engines using saturated steam. The cylinder volume is 18.1 cu. ft., and with a total heating surface of 5,365 sq. ft., there are provided 296 sq. ft. of heating surface for each cu. ft. of cylinder volume. The ratio of grate area to heating surface is as 1 to 91.7, which is very much greater than the most liberal practice of a few years ago. In this connection the evaporative work of engines with this large ratio will be of interest and value. In the report on the Economics of Railway Location to the Maintenance of Way Association, the committee stated that the highest rate of evaporation per sq. ft. of heating surface was when the ratio to grate area was as 50 to 1. This tallies with the empirical data of the small engines of two decades or more ago, but that more because of physical limitations than any thing else. The biggest possible grate had but one-fiftieth the area of the largest possible heating surface. Now we have a ratio of nearly double this old one, and the point is, whether the additional steam production corresponds with the added cost and at what point this increase of ratio will cease to be profitable. The lowered steam pressure, too, is a matter of interest. It corresponds very closely with Prof. Goss's point of maximum efficiency, and it would be of great value if this matter could be tested to a finish.

The boiler is of the radial stay wagon-top type, with a wide firebox placed over the rear drivers and trailing truck. The

supported on leaf springs back of the trailing truck. Cast steel is used for various details, including driving wheel centers, driving boxes and guide bearers. The driving wheel centers have brass hub liners.

This locomotive is provided with electric headlight equipment, also with two sand-boxes for sanding ahead of the leading drivers when running in either direction. The tender frame is composed of 12-in. channels, and it supports a straight top tank with gravity slides in the fuel space. The trucks are of the arch-bar type, with cast steel bolsters and Standard rolled steel wheels.

These engines carry a weight of approximately 50,000 lbs. on each pair of driving wheels. In this respect they are comparable to many consolidation type locomotives now in service, but the use of trailing trucks has made possible a material increase in boiler capacity. This feature should enable them to develop greater horse-power, and hence maintain a higher speed, than a locomotive with the same tractive effort and wheel loading, but having a smaller boiler. The rear truck is also of value when backing into curves and switches.

Following are the principal dimensions and data of these locomotives:

Ratios.	
Weight on drivers \div total weight.....	76.92*
Weight on drivers \div tractive effort	3.93

*Per cent.

Ratios $\frac{!}{!}$ *Continued.*

Total weight \div tractive effort	5.11
Tractive effort \times diam. drivers \div heating surface	539.72
Heating surface \div grate area	91.71
Firebox heating surface \div total heating surface	3.84*
Weight on drivers \div total heating surface	37.28
Total weight \div total heating surface	46.60
Displacement of 2 cylinders, cu. ft.	18.1
Total heating surface \div displacement of 2 cylinders	296.41
Grate area \div displacement of 2 cylinders	3.23

*Per cent.

General Data.

<i>General Data.</i>	
Tractive effort	50,800 lbs.
Wheel base, rigid	16 ft.
" " engine	31 ft. 6 in.
" " engine and tender	62 ft.
Weight, on drivers	200,000 lbs.
" front truck	34,000 "
" back truck	36,000 "
" total engine	260,000 "
" engine and tender	400,000 "

Cylinders.

Diameter	.....	25 in.
Piston, stroke	.....	32 "
<i>Wheels.</i>		
Wheels, diameter, driving	.....	57 in.
" " front truck	.....	30 "
" " back truck	.....	40 "
" " tender	.....	33 "
Journals, driving, main	.....	11 in. x 12 "
" others	.....	10 " x 12 "
" front truck	.....	6 1/2 " x 10 1/2 "
" back truck	.....	7 1/2 " x 12 "

Boiler.

Tender.

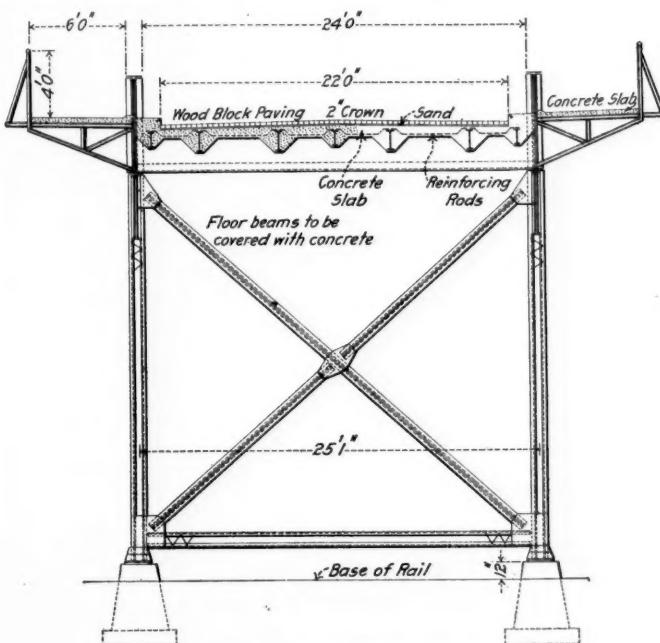
Tank, capacity, water 7,000 gals.
Tank, capacity, coal 14 tons

VIADUCT AND SUBWAY AT POCATELLO, IDAHO.

On June 6, 1910, the city council of Pocatello, Idaho, accepted the plans prepared by the Oregon Short Line for a viaduct over the yards of the company on the line of Center street and a subway under the yards of the company on the line of Halliday street. These plans are shown in the accompanying illustrations.

The viaduct will be of steel and reinforced concrete with a

roadway 22 ft. wide and two 6-ft. sidewalks. The south approach will be straight, starting inside the right-of-way line of the company, and will consist of retaining walls for a sufficient distance to attain a height of about 10 ft. above the general ground level. From that point a reinforced concrete viaduct of arched bents will be used until the first track in the railway yards is reached. From this point to the north right-of-way line of the railway, the viaduct will consist of 11 spans of through plate girders on steel bents, varying in length from 31 ft. 6 in. to 69 ft., making the total length of steel 558 ft.

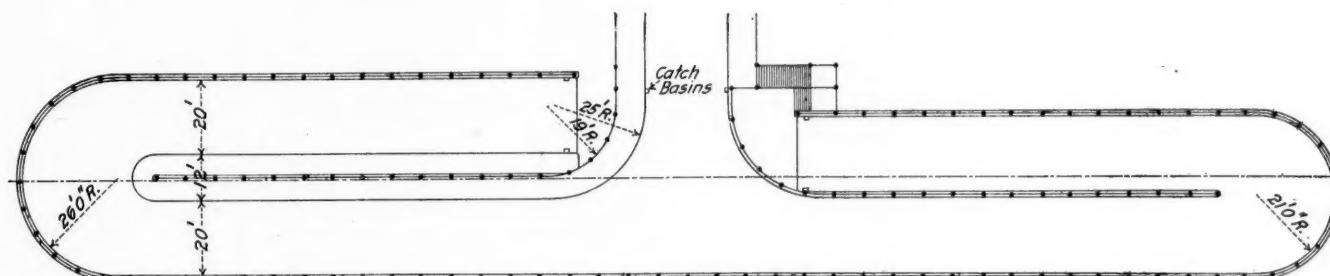
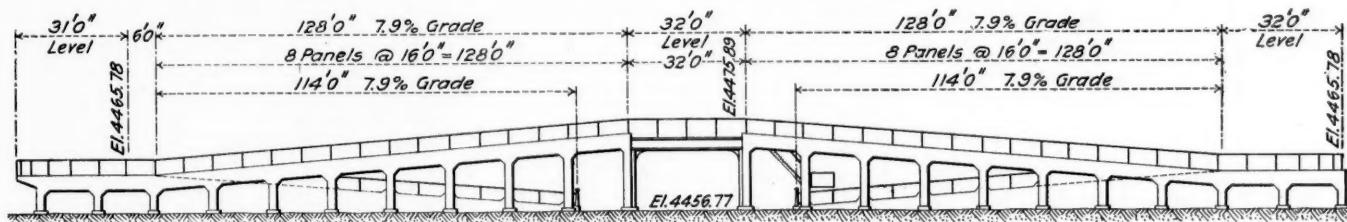


Typical Transverse Section of Viaduct.

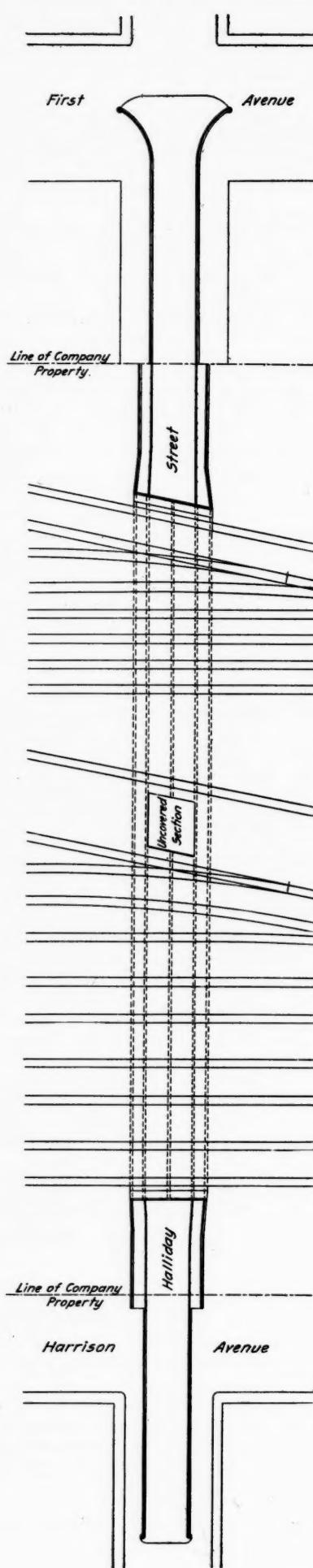
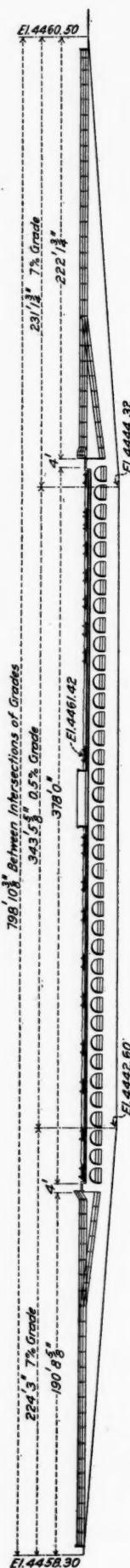
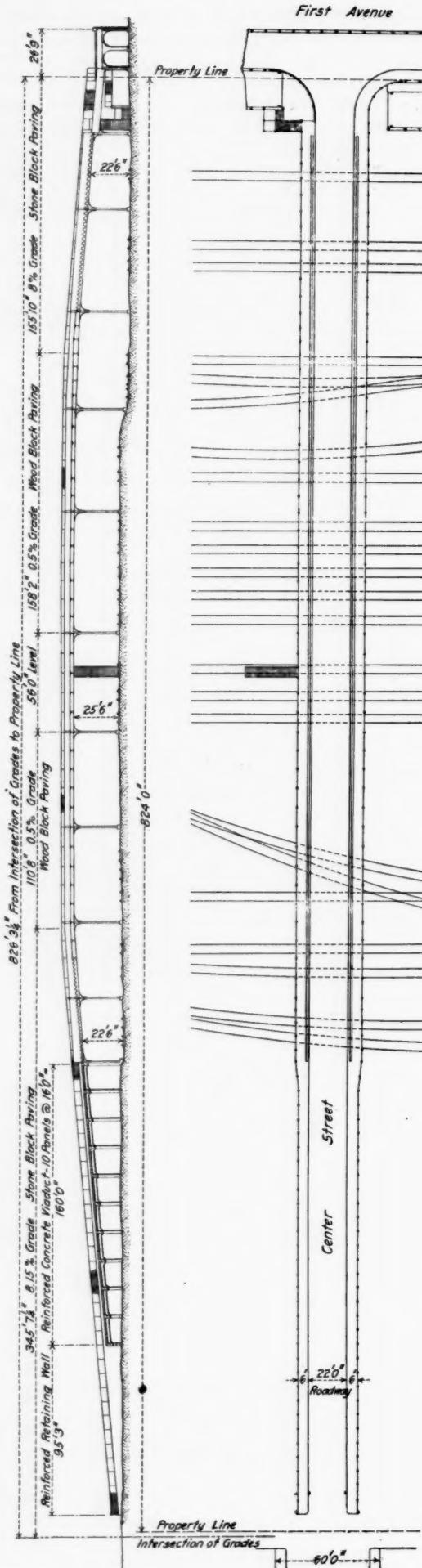
9 in. The north approach will be in the form of two loops, of similar construction to that to be used in the south approach.

The grades of approaches will not exceed 8.25 per cent. and the main portion of the viaduct will be on a 0.5 per cent. grade, with a maximum height of 28 ft. 9 in. from base of rail to crown of roadway. The level portion of the viaduct will be paved with wood blocks, while on grades the paving will be of stone blocks. The approximate tonnage of steel required is 275 tons, and the total estimated cost is \$125,000.

The subway will be 799 ft. long, with a covered length of 386 ft. The approaches will be straight and on 7 per cent.

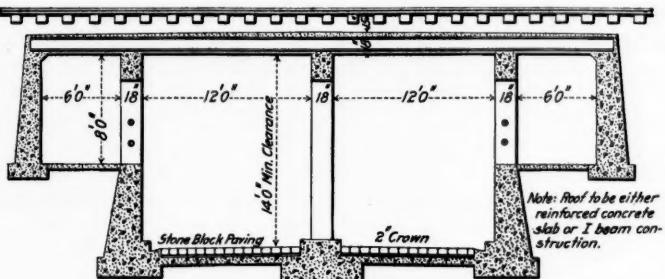


First Avenue
Approach to Viaduct.



Plan and Longitudinal Section of Subway at Pocatello; Oregon Short Line.

grades, with two 12-ft. roadways and two 6-ft. sidewalks. The roof of the subway will consist partly of steel I-beams in concrete and partly of reinforced concrete, supported on a series of arches between sidewalks and roadways. Paving through-



Transverse Section of Subway.

out will be of stone blocks. The total estimated cost is \$96,000.

No contracts have been let, the present intention being to do the work with company forces.

A JUDICIAL OPINION ON THE LONG AND SHORT HAUL QUESTION.

The following abstract is taken from a dissenting opinion by Judge A. M. Woodson of the Supreme Court of Missouri, in the case of *J. C. McGrew v. Missouri Pacific*. The Missouri law provides:

"Sec. 1126. No railway corporation organized or doing business in this state, under any act of incorporation or general law of this state now in force, or which may be hereafter enacted, shall directly or indirectly charge or collect for the transportation of goods, merchandise, or property on its roads for any distance, any larger or greater amount, as toll or compensation, than is charged or collected for the transportation of similar quantities of the same class of goods, merchandise or property over a greater distance upon the same road, nor shall such corporation charge different rates for receiving, handling or delivering freight at different points on its road or roads connected therewith, which it has a right to use, nor shall any such railway corporation charge or collect for the transportation of goods, merchandise or property over any portion of its road a greater amount as toll or compensation than shall be charged or collected by it for the transportation of similar quantities of the same class of goods, merchandise or property over any other portion of its road of equal distance; and all such rules, regulations or by-laws of any railway corporation, as fix, prescribe, or establish any greater toll or compensation than is hereinbefore prescribed, are hereby declared to be void."

"Sec. 1160. Any railway corporation which shall fix, demand, take or receive from any person or persons any greater toll or compensation for the transportation, receipt, handling or delivery of goods or merchandise, in violation of the provisions of this article, shall forfeit and pay for any such offense any sum not exceeding one thousand dollars, and costs of suit, including a reasonable attorney's fee, to be taxed by any court where the same is heard by appeal or otherwise, to be recovered by civil action by the party aggrieved, in any court having jurisdiction thereof; and any officer, agent or employee of any such railroad corporation who shall knowingly or wilfully violate the provisions of this article shall be liable to the penalties prescribed in this section."

The appellant assails the constitutionality of those statutes for the reason that they were not enacted in accordance with the requirements of section 32, Article 4 of the Constitution of 1865. That section reads as follows: "No law enacted by the general assembly shall relate to more than one subject, and that shall be expressed in the title; but if any subject embraced in an act be not expressed in the title, such act shall be void only as to so much thereof as is not so expressed."

The title to the act of 1872 is as follows: "An Act to prevent unjust discrimination and extortion in the rates to be charged by the different railways in this state, for the transportation of freight on said roads."

The appellant contends that the title of the act is directed against *unjust discriminations*, while the act itself prohibits all discrimination, whether just or unjust.

The appellant insists that if the validity of that act is tested by the constitutional provision before quoted, then that portion of the act which prohibits *all* discrimination is void and inoperative, for the reason that it is not mentioned in the title of the act.

The title of the act of 1872 does not purport to prohibit *all* discrimination in the transportation of freight, but in express terms directs its inhibition against *unjust* discrimination only. The principle of *mentio unius exclusio alterius* applies here, and there is no possibility of escape from the conclusion that all discrimination is not embraced in the title of the act of 1872. Having shown that the title of the act in question does not prohibit *all* discrimination by railways in the shipment of freight, it would seem to be useless to cite authorities to sustain the proposition that such portion of the act which attempts to do so, is, in the language of the constitution, "void" and inoperative; but since the majority of the court entertained different views regarding the legal questions involved in this case will continue.

In brevity, I do not believe it was the intention of the legislature, by the act of 1872, to prohibit *either just or unjust discrimination* in the transportation of freight over railways, for the reason that there is *nothing in the body of the act which refers even remotely to that subject*: * * *

I have two criticisms to suggest regarding that clause of the opinion of my learned associate. First, that while section 1 of the act of 1872 was properly re-enacted in 1879 and is now section 1126 Rev. Stat. of 1899, and upon which this suit is based, was repealed by an act of 1887. Second, that said section 12 and 14 of the Constitution are not self-enforcing, and there is no statute or common law in force which prohibits reasonable and just discrimination by railway companies in the transportation of freight and passengers over their roads under the direction and approval of the Board of Railroad and Warehouse Commissioners; but on the other hand, the act of 1887 expressly authorizes them to do so.

I will discuss these propositions in the order stated, but before doing so I wish to state in the first place that I am at a perfect loss to understand the motive which induced the plaintiff to institute and prosecute this suit, for the reason, as shown by the freight schedules, made and promulgated by the State Board of Railroad and Warehouse Commissioners (which are public records and of which we have the right to take judicial notice), that the rates with which he was charged were, in every instance, so far as I have been able to ascertain, less than the legal rates, and were evidently made for the purpose, among others, of enabling him to sell his coal in competition with the coal of mines located on other roads and in other states. If the reduced rates of which he complains had not been made by defendant he would not have been able to have marketed his coal, mentioned in this suit, in competition with coal from other mines, and would therefore have lost that trade, as will be presently shown. The defendant was also benefited by said reduced rates or it would not have made them, for the reason that it was thereby enabled to secure transportation of said coal which it otherwise would not have been able to have done on account of the competition of other mines located on other and shorter roads. Clearly, this was the case at Boonville, where coal was going there from Lowery City and Brownington over other roads; at Sweet Springs, where coal was going from Higginsville; and Joplin, where coal was going from various mines located in the state of Kansas. If the defendant company had not made the reduced rates complained of it would have meant that the mines located on other roads and in different states would have monopolized the coal business at the point to which the reduced rates were

made, and that of course would have worked injury in those communities as well as upon the plaintiff by limiting his mine output, and upon the defendant by depriving it of the transportation of the coal, about which this suit was brought.

We know from common knowledge that the cost of mining coal in this state far excels the cost of mining it in the state of Illinois, and if Missouri coal mines are not given reduced rates to Boonville and other competing points, Illinois coal will surely supply their needs. This great difference in the price of mining coal in Illinois as compared with mining it in Missouri enables the former with much higher railway rates to sell its products in this state even against the legal freight rates made from the Missouri mines. The Missouri mines, therefore, in order to be enabled to do any business in many towns of this state competing with the Illinois coal, it is necessary for the railways to make them a lower rate than the legal rate; for instance, by an examination of the state and interstate rates it appears that the rate from the Illinois coal fields to Boonville is \$1.95 per ton and to Marshall \$2.10 per ton. Still this record shows that defendant has made a rate of forty cents per ton on coal from Myrick to Boonville, presumably in order to enable it to haul some of the coal that is consumed at the latter place. Otherwise, the Illinois mine would supply that city's entire demand.

Of course, it goes without argument that the defendant like other railway companies is desirous of getting as high freight rates as it possibly can. Self interest prompts it to do so, and when a railway, therefore, voluntarily reduces the rates prescribed for it by statute or by the railway commissioners, it must mean that it cannot otherwise procure the freight for transportation. Railway companies understand the commercial conditions governing the situation and that those conditions will not admit of transportation by them unless at reduced rates. Besides that, they understand that the communities they serve will be deprived of the advantages which flow from the successful operations of their industries. By making special or such reduced rates to meet those commercial conditions, the competition of other markets and of like or other commodities, they are conferring substantial benefits on those communities. If such reduced rates are not made, in all probability the business will not be forthcoming. Under such circumstances, it seems to me that carriers are justified in making such rates as will enable those communities to do business in competitive markets, provided there is no loss to them in the transaction; and it can be readily understood that if such reduced rates do not affect or influence upon other existing traffic, they can sometimes and under certain conditions be made very low before a loss will result therefrom.

Where a railway plant and all facilities are already ample and sufficient to enable it to transport such freight without further expenditures then it will be seen that the expense incurred in this particular transportation would not be in proportion to that of its regularly established business. The difference in the rail carriers' rates can sometimes be very great, and it cannot be justly said that some are unreasonably high, or that others are unreasonably low, for the reason that the expense which a traffic under certain conditions adds to the already existing expense may be covered by very low rates without injury to any locality or community, and yet the rates which it may be necessary to charge upon other traffic must of necessity be higher so that the entire cost may be covered and the property be safely and successfully operated.

It is a common complaint made by the ordinary uninformed man, that the reduced competitive rates on the through rates which may be lower for a longer than for a shorter haul produce a loss to the railways which they have to recoup or make back by charging higher rates for shorter hauls; that is to say, that they do the business in such cases for less than they can afford to do it for were they not able to make an unreasonably high profit from their local business. That is an erroneous idea. If the railways did not take the competitive business at the low rates, it would mean they would not procure any of the business, and consequently they would lose just so much revenue as would be derived from its transportation had they procured it. For in-

stance, suppose a competitive through business was offered at ten cents a hundred and that the same carrier was charging twenty cents a hundred for the short haul or intermediate points. Under such conditions it must take the through competitive business at ten cents or not take it at all, for the reason that other roads which have shorter routes would take the business for ten cents, which would be their legal local rate. The intermediate stations do not complain of the reasonableness of their rates, because the longer competing line does not take the through freight, yet they do not see that by doing so it would enable it to carry local shipments at a lower rate. By taking the business at the ten-cent rate there may not be as much profit to the longer road as there would be if it charged and could receive the local higher rates, but by reason of the fact that there is some profit in the business at the ten cents or competitive rate, it can be justly said that such business adds to the receipts of the company more than to its expenses, and for that reason it is justified in engaging in said through business, provided by so doing it does not injure or affect the intermediate shipper or his business upon which the higher rates are charged. By reason of there being some profit in the business, if profit it may be called, it makes the cost of the entire business of the company less per unit and it is thereby better able to give lower rates to the intermediate points than it otherwise would be.

I gather from the reports of the Interstate Commerce Commission that approximately the following divisions may be made of the entire expense of maintaining and operating the railways of the United States: One-third to pay interest on stocks and bonds; another third to be expended in maintaining stations and station grounds, salaries of the general officers, legal officers, division officers, station agents, clerks, telegraph operators, bridge men, section men, and all other classes which it may be necessary to retain whether the competitive through business is taken or not.

These two-thirds of the expense, which might be called a fixed expense, goes on whether the railway hauls ten million or thirty million tons of freight. The remaining third of the expense might be termed the movement expense, which consists of the wages of engineers, firemen, conductors and brakemen, locomotive and car repairers, fuel, oil, waste, water, the wear and tear of rails, decay of ties, etc. As the competitive through traffic is offered at certain specified rates made by influences beyond the control of the carrier change or effect, the question to be first determined is—will it pay this so-called movement question? The other two-thirds of the expense, of course, goes on whether the through traffic is taken or not. Any sum received in excess of this movement expense is just so much more than can be applied toward meeting the fixed two-thirds expense, and the road is thereby enabled to make the burden lighter for the local or non-competitive traffic.

The movement expense of such traffic might be decreased materially according to the different conditions or exigencies that might arise. For instance, if the traffic was offered at a time when empty cars had to be returned, which at certain seasons of the year amounts to thousands, the items of wages, fuel and other supplies, together with repairs of locomotives and cars, would not properly enter into the cost. The expense incident to these would be largely incurred with the movement of empty cars as well as with the loaded ones. Again, if the preponderance of tonnage was in the direction opposite to that which the competitive business was destined and such business enabled the carrier to load trains that would otherwise be hauled light or empty, the expense of the new competitive business would be inappreciable. For would this competitive business entail a proportionate share of the large expense of maintaining the track, bridges and culverts, which constitute a large part of this third of the movement expense?

Bearing in mind those many influences, it will be observed that many of the items comprising the movement expense already incurred by the then existing business would not be changed by the addition of the new competitive traffic, and that the entire expense of its carriage would in many cases be inappreciable.

General News Section.

Washouts are reported on the Southern Pacific of Mexico south of Villa Verde, near the northern border of Mexico.

Severe floods are reported in Japan, principally on the southern coast. There have been several derailments resulting from washouts.

The system of train auditors established some time ago on the National of Mexico has been extended to the Mexican International.

The Interstate Commerce Commission has called a hearing for September 29 in the matter of compliance with the provisions of the revised Safety Appliance act.

The International & Great Northern has closed down its car repair shops at Palestine for the month of August. All other departments of the shops are operating.

The Society for the Protection of New Hampshire's Forests will ask the state legislature next session to enact a law making the use of oil fuel on locomotives compulsory.

The Atchison, Topeka & Santa Fe, in giving deeds to property in the new town of River Bank, Cal., which is to be a division point, has put in such restrictions as permanently to exclude saloons from the town.

A fast fruit train on the Erie, while going at high speed, struck a landslide in a deep cut a mile and a half west of Howells, N. Y., on August 5. The locomotive and 10 cars were wrecked and the engineman, the fireman and a brakeman were killed.

The floor of one of the new steel dining cars of the Pennsylvania is being covered with cork slabs compressed from an original thickness of 14 in. to less than $\frac{1}{2}$ in. The material gives a sure but silent foothold, and if its use proves satisfactory all of the company's steel diners may be so equipped.

The Grand Trunk, according to press despatches, will hereafter require passenger train conductors and trainmen to pay more attention to their personal appearance and dress. The superintendent of the Ottawa division is quoted as saying that the company will expect an improvement since the increased scale of wages has gone into force.

On August 5 a Delaware, Lackawanna & Western freight train, made up of 62 cars, got away on the steep grade about four miles north of Stroudsburg, Pa., and was derailed. The rear part of the train seems to have left the track first, breaking away from the front part, which was piled up half a mile further on. The engineman and a brakeman were killed.

A head-on collision on August 8 between a passenger train and a work train on the Northwestern Pacific, two miles south of Ignacio, Cal., killed 13 persons. The passenger train met the work train, consisting of a caboose and two flat cars, on a curve. The baggage car and smoker were telescoped, but the other cars were not damaged. The conductor on the work train is held responsible, having received orders to wait in the Ignacio yards until the passenger train had passed.

The advisory board of railway superintendents, appointed at the last state railway convention to confer with the Indiana Railway Commission concerning the operation of trains and the prevention of accidents, held a meeting on August 1. Accidents during the first half of this year were discussed and topics for discussion at the next annual convention, to be held November 1, were submitted for consideration of the programme committee, which has been called to meet with the advisory board and the railway commission September 29 to arrange a programme.

The Pennsylvania Railway's 18-hour New York-Chicago train went off the track at two o'clock in the morning on August 7 at Canton, Ohio, while running at high speed. According to the despatches, a brake beam under the tender dropped and derailed the tender, which ran over the ties for 100 yards until it struck a switch. Then the rest of the cars were derailed. The train broke in two between the second and third cars. When the first two cars stopped they were standing across the track, but

no car was turned over. The engine stayed on the rails. No one was hurt.

The attorney-general of Texas has prepared an opinion for the state railway commission, holding that the legislature cannot constitutionally enact a law giving the commission power to require railway companies to build sidings or spur tracks to private industries which do not touch the right-of-way of the railway but are situated near-by and to apportion the expense between the railway company and the industries benefited. The attorney-general says that one of the main purposes of the creation of the commission was to prevent unjust railway discriminations and that such a law as that proposed would authorize the commission to determine where spur tracks should be built, and thereby to discriminate itself.

The Michigan Central has published a leaflet showing the records of the special train run for the Brotherhood of Locomotive Engineers from Windsor, Ont., to Falls View, Niagara Falls, on May 21. As stated at the time, the records show that the run of 224 miles was made in 217 minutes, without a stop. The time of passing each station, both going and returning, is shown in the record, and the miles between stations are given. The record shows that the highest speed for the first train was 80 miles an hour, made for three minutes between Fletcher and Buxton. The second train made the run between Essex and Woodsley in four minutes, at the rate of 83 miles per hour. Returning, the highest speed recorded was from Ridgetown to Fargo, made in seven minutes, at the rate of 93 miles an hour.

Drafting Employers' Liability Act in Illinois.

The state employers' liability commission of Illinois has prepared a tentative plan for an employers' liability act. This plan is expected to be embodied in a bill to be reported to Gov. Deneen before Sept. 15. A scale of compensation for injuries received in industrial accidents is a part of the plan of the proposed law. Present methods of settling claims for personal injury are unsatisfactory because of the questions of negligence or fault which are all important in actions at law. The proposed law is to be "compulsory in form but elective in fact." The employer shall pay the compensation provided in the act, but neither employer nor employee loses any common law remedies. To refuse to compensate the employee for permanent or temporary disability would subject the employer to liability for suit in which damages would be apportioned according to the relative degree of negligence and the burden of proof would be on the employer. Acceptance of compensation for the hurt by the employee under the plan would bar him from beginning action at common law.

Charles Piez of Chicago, president of the Link-Belt Company, was elected chairman of the commission to succeed the late Ira G. Rawn. Gov. Deneen appointed W. J. Jackson, general manager of the Chicago & Eastern Illinois, to membership on the commission to fill the vacancy caused by the death of Mr. Rawn.

Novel Entertainment by Union Pacific and McKeen Motor Car Co.

The Union Pacific and the McKeen Motor Car Company gave a novel entertainment at Omaha on July 30. The Union Pacific's principal shops are located at Omaha and the McKeen company's plant is within the same enclosure. The two companies on this date threw their works open to the citizens of the city and invited all who wished to inspect them. There was a constant stream of visitors from 9 a. m. until evening. All the shops were in operation. The employees were permitted to lay down their tools at 11 a. m. and the Union Pacific band then gave a brief concert at the shop of the motor company, after which George Brophy, one of the old employees of the Union Pacific, made an address in which he welcomed the visitors. In the course of his remarks Mr. Brophy deprecated anti-railway legislation and agitation. The Omaha newspapers gave full accounts of this unusual entertainment, the *Bee* saying in part:

"Having decided to entertain every person in Omaha anxious to see and learn, the officials of the two companies went about the business in proper form. Alert, well-informed guides met

all visitors at the main gate and escorted them in groups through the office building, the storehouse, oil house, power house, machine shop, blacksmith shop, boiler shop, pattern shop, car shop, paint and wheel shop and the motor car shops.

"Conversation of a polite, well-modulated, social character was not very popular in most of the shops and could only be conducted with difficulty; but there were sights to see and lessons to be learned at every step. Much eagerness was evinced to learn all the guides had to tell, and it is safe to say the people of Omaha, to a very large number, are much better informed on and have a higher conception of the vast growth and importance of the Union Pacific industrial plant here than they ever had before."

Labor Negotiations.

The Grand Trunk announced, after the strike settlement had been effected, that the men who struck have forfeited their claims to the pension fund. The rules under which the fund is maintained expressly provide the annulment of pensions to all strikers. It does not appear that the company has been taking back the strikers in as large numbers as the men expected.

After the meeting of railway trainmen at St. Louis adjourned on August 7, it was announced that conductors and trainmen would, within the next 10 or 15 days, be given the opportunity to vote on propositions for demanding an eight-hour day for freight conductors and trainmen and the mileage basis for passenger train crews. If the vote is carried, the matter will be taken up with the officers of western roads within 30 or 40 days.

The Brotherhood of Locomotive Engineers has decided to demand a flat wage increase of from 15 to 18 per cent. on roads west of Chicago.

The strike of Canadian Northern steamfitters at Winnipeg, Man., has been settled. The men accepted the company's offer of five cents an hour increase and increased pay for overtime.

The Louisville & Nashville has made an agreement with its enginemen, who are understood to get a substantial increase. The agreement provides for the following scale per 100 miles: Local freight, \$5; through freight, \$4.90; through passenger, \$3.95; branch passenger, \$3.80. The men have heretofore been paid by the day.

Master Car and Locomotive Painters' Association of United States and Canada.

The forty-first annual convention will be held in St. Louis, Mo., September 13-16, 1910.

American Street and Interurban Railway Association.

The exhibit committee of the American Street & Interurban Railway Manufacturers' Association has made a number of changes in the exhibit space arrangement on the Million Dollar Pier at Atlantic City, N. J., for the 1910 convention, to be held October 10-14. These changes have been found necessary on account of the G. A. R. convention to be held in Atlantic City during the latter part of September, at which time the pier will be used for entertainment purposes. The Manufacturers' Association has prepared a new diagram of the exhibit space, a copy of which will be mailed to all exhibitors who are affected by the changes in the diagram.

There is no change in Machinery Hall and in Building No. 3, but there is some change in the general arrangement of Building No. 2 and considerable change in the front spaces of Building No. 1. These changes have necessitated the postponement of the final assignment of the exhibition space, which will probably be made on August 12. The alterations make it very necessary that every exhibitor should give the weight and dimensions of the apparatus he expects to exhibit.

The total exhibit space will be approximately 78,000 sq. ft., which is more than this convention has ever before required. In 1908, 65,000 sq. ft. were used. The applications to date call for about 52,000 sq. ft. There has been an enormous growth of the American Street & Interurban Railway Association, taking in several steam roads which have electrified track, and a general marked increase in interest on the part of steam roads is being manifested.

Exhibit space may be had at 30 cents per sq. ft. and the cost of handling freight will be \$5 per ton.

MEETINGS AND CONVENTIONS.

The following list gives names of secretaries, dates of next or regular meetings, and places of meeting.

AIR BRAKE ASSOCIATION.—F. M. Nellis, 58 State St., Boston, Mass.
 AMERICAN ASSOCIATION OF DEMURRAGE OFFICERS.—A. G. Thomason, Scranton, Pa.; next meeting June 22, 1911; Niagara Falls, N. Y.
 AMERICAN ASSOCIATION OF GENERAL PASSENGER AND TICKET AGENTS.—C. M. Burt, Boston, Mass.; next meeting, St. Paul, Minn.
 AMERICAN ASS'N OF LOCAL FREIGHT AGENTS' ASS'N.—G. W. Dennison, Penna. Co., Toledo, Ohio.
 AMERICAN ASS'N OF RAILROAD SUPERINTENDENTS.—O. G. Fetter, Carew Bldg., Cincinnati, Ohio; Sept. 16; St. Louis.
 AMERICAN RAILWAY ASSOCIATION.—W. F. Allen, 24 Park Place, New York; semi-annual, Nov. 16; St. Louis, Mo.
 AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W., Chicago; Oct. 18; Fort Worth, Tex.
 AMERICAN RAILWAY ENGINEERING AND MAINT. OF WAY ASS'N.—E. H. Fritch, Monadnock Bldg., Chicago; March 21-23, 1911; Chicago.
 AMERICAN RAILWAY INDUSTRIAL ASSOCIATION.—G. L. Stewart, St. L. S. W. Ry., St. Louis, Mo.
 AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—J. W. Taylor, Old Colony Building, Chicago.
 AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—O. T. Harroun, Bloomington, Ill.
 AMERICAN SOCIETY FOR TESTING MATERIALS.—Prof. Edgar Marburg, Univ. of Pa., Philadelphia.
 AMERICAN SOCIETY OF CIVIL ENGINEERS.—C. W. Hunt, 220 W. 57th St., N. Y.; 1st and 3d Wed., except July and Aug.; annual, Jan. 18-19.
 AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 29th St., N. Y.; annual, Dec. 6-9; New York.
 AMERICAN STREET AND INTERURBAN RAILWAY ASS'N.—H. C. Donecker, 29 W. 39th St., New York; Oct. 10-14; Atlantic City.
 ASSOCIATION OF AM. Ry. ACCOUNTING OFFICERS.—C. G. Phillips, 143 Dearborn St., Chicago; April 26, 1911; New Orleans, La.
 ASSOCIATION OF RAILWAY CLAIM AGENTS.—E. H. Hemus, A., T. & S. F., Topeka, Kan.
 ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—G. B. Colegrove, I. C. R. R., Chicago; annual, Sept. 27-30; Chicago.
 ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—P. W. Drew, 135 Adams St., Chicago; June 19, 1911; Boston.
 ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—G. P. Conard, 24 Park Place, New York.
 BUFFALO TRANSPORTATION CLUB.—J. N. Sells, Buffalo.
 CANADIAN RAILWAY CLUB.—James Powell, Grand Trunk Ry., Montreal, Que.; 1st Tues. in month, except June, July and Aug.; Montreal.
 CANADIAN SOCIETY OF CIVIL ENGINEERS.—Clement H. McLeod, Montreal, Que.; Thursdays; Montreal.
 CAR FOREMAN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 841 North 50th Court, Chicago; 2d Monday in month; Chicago.
 CENTRAL RAILWAY CLUB.—H. D. Vought, 95 Liberty St., New York; 2d Friday in January, March, May, Sept. and Nov.; Buffalo.
 ENGINEERS' SOCIETY OF PENNSYLVANIA.—E. R. Dasher, Box 704, Harrisburg, Pa.
 ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—E. K. Hiles, 803 Fulton Building, Pittsburgh; 1st and 3d Tuesday; Pittsburgh.
 FREIGHT CLAIM ASSOCIATION.—Warren P. Taylor, Rich., Fred. & Pot. R. R., Richmond, Va.; 20th annual, June 21, 1911; St. Paul, Minn.
 GENERAL SUPERINTENDENTS' ASS'N OF CHICAGO.—H. D. Judson, 209 Adams St., Chicago; Wednesday preceding 3d Thursday; Chicago.
 INTERNATIONAL MASTER BOILER MAKERS' ASSOCIATION.—Harry D. Vought, 95 Liberty St., New York; next convention, Omaha, Neb.
 INTERNATIONAL RAILWAY FUEL ASSOCIATION.—D. B. Sebastian, La Salle St. Station, Chicago.
 INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—L. H. Bryan, D. & I. R. Ry., Two Harbors, Minn.
 INTERNATIONAL RAILWAY MASTER BLACKSMITHS' ASS'N.—A. L. Woodworth, Lima, Ohio; Aug. 16-18; Detroit, Mich.
 INTERNATIONAL RAILWAY CONGRESS.—Executive Committee, rue de Louvain, 11 Brussels.
 IOWA RAILWAY CLUB.—W. B. Harrison, Union Station, Des Moines, Ia.; 2d Friday in month, except July and August; Des Moines.
 MASTER CAR BUILDERS' ASSOCIATION.—J. W. Taylor, Old Colony; Chicago.
 MASTER CAR AND LOCO. PAINTERS' ASS'N OF U. S. AND CANADA.—A. P. Dane, B. & M., Reading, Mass.; annual, St. Louis, Sept. 13-16.
 NEW ENGLAND RAILROAD CLUB.—G. H. Frazier, 10 Oliver St., Boston, Mass.; 2d Tuesday in month, ex. June, July, Aug. and Sept.; Boston.
 NEW YORK RAILROAD CLUB.—H. D. Vought, 95 Liberty St., New York; 3d Friday in month, except June, July and August; New York.
 NORTH-WEST RAILWAY CLUB.—T. W. Flanagan, Soo Line, Minn.; 1st Tues. after 2d. Mon., ex. June, July, August; St. Paul and Minn.
 NORTHERN RAILWAY CLUB.—C. L. Kennedy, C., M. & St. P., Duluth; 4th Saturday; Duluth, Minn.
 OMAHA RAILWAY CLUB.—A. H. Christiansen, Barker Blk.; Second Wed.
 RAILWAY CLUB OF KANSAS CITY.—C. Manlove, 1008 Walnut St., Kansas City; 3d Friday in month; Kansas City.
 RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, Pittsburgh, Pa., 4th Friday in month, except June, July and August; Pittsburgh.
 RAILWAY SIGNAL ASSOCIATION.—C. C. Rosenberg, 12 North Linden St., Bethlehem, Pa.; annual, Oct. 11-13; Richmond, Va.
 RAILWAY SLEEPERS' ASS'N.—J. P. Murphy, Box C, Collinwood, O.
 RICHMOND RAILROAD CLUB.—F. O. Robinson; 2d Monday; Richmond.
 ROADMASTERS' AND MAINTENANCE OF WAY ASS'N.—Walter E. Emery, P. & P. U. Ry., Peoria, Ill.; annual, Sept. 13-16; Chicago.
 ST. LOUIS RAILWAY CLUB.—B. W. Frauental, Union Station, St. Louis, Mo.; 2d Friday in month, except June, July and Aug.; St. Louis.
 SOCIETY OF RAILWAY FINANCIAL OFFICERS.—C. Nyquist, La Salle St. Station, Chicago; Oct. 25 and 26; Hotel Chamberlin, Old Point Comfort, Va.
 SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—E. W. Sandwich, A. & W. R. Ry., Montgomery, Ala.; annual, Oct. 20; Atlanta.
 SOUTHERN & SOUTHWESTERN R.R. CLUB.—A. J. Merrill, Prudential Bldg., Atlanta; 3d Thurs., Jan., Mar., July, Sept. and Nov.; Atlanta.
 TRAFFIC CLUB OF NEW YORK.—C. A. Swope, 290 Broadway, New York; last Tuesday in month, except June, July and August; New York.
 TRAIN DESPATCHERS' ASS'N OF AMERICA.—J. F. Mackie, 7042 Stewart Ave., Chicago.
 TRANSPORTATION CLUB OF TOLEDO.—L. G. Macomber, Woolden Spice Co., Toledo.
 TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, N. Y. C. & H. R., East Buffalo; annual meeting; Aug. 16-18; Niagara Falls, Ont.
 WESTERN CANADA RAILWAY CLUB.—W. H. Rosevear, P. O. Box 1707, Winnipeg; 2d Monday, except June, July and August; Winnipeg.
 WESTERN SOCIETY OF ENGINEERS.—J. H. Warder, Monadnock Bldg., Chicago; Wednesdays, except July and August; Chicago.

Traffic News.

The Mallory Steamship Company has announced an increase of 2 cents in its cotton rate from Galveston to New York, effective September 10. The new rate is 20 cents per 100 lbs.

The Southwestern Tariff Committee has issued a formal order notifying all trunk lines that division rates with tap lines must cease. The tap lines affected by the discontinuance of the divisions by trunk lines number 34.

The Chicago & Western Indiana has restored the suburban service which was taken off its lines when Benjamin Thomas was its president. Beginning last Sunday it runs five trains each way as far south as Dolton, Ill., and South Holland.

Last week we noted that all but four of the Erie Railroad's fast freight trains operated during June had reached their destination in time for advertised markets. The total number of these fast freight trains was 295, and not 95, as published.

What is said to be the largest amount of ore ever received in any one month at any port of the Great Lakes was docked at Ashtabula during July for distribution among the iron and steel industries of the Mahoning and Shenango valleys. It is said that the total was 1,607,534 tons.

The order of the Interstate Commerce Commission that the freight rate on lemons from California to the Atlantic coast should be reduced from \$1.15 per hundred pounds to \$1, which was to have become effective September 1, has been suspended, to become effective November 1.

For the convenience of visitors to the thirty-first triennial conclave of Knights Templar, which is being held in Chicago this week, the Rock Island lines not only established a separate office at the LaSalle street station for the validation of tickets, but also maintained a special information bureau.

According to the Houston *Post*, it has been estimated that the cost of operation of the agricultural educational train, which is being run over the Houston & Texas Central, will be about \$5,700. There are 18 lecturers on the train. The schedule calls for lectures beginning August 2 and extending to August 10.

The Union Pacific has sent a party into the Greeley-Poudre irrigation district to take photographs of the March and McGrew reservoirs, the Wellington cut and other mountain ditches and reservoirs. A description of the irrigation system will be written, and together with the photographs, will be issued in pamphlet form.

The attorney-general of Iowa has sent to the Interstate Commerce Commission a complaint against the railways of Iowa, attacking proportional class rates, commodity rates and the rates on local shipments. The complaint says that Iowa is discriminated against because through rates from points in Illinois and the East are higher than the aggregate of the intermediate rates.

The Interstate Commerce Commission has sent notifications to the railways operating in official classification territory, saying that the commission will begin holding hearings August 15 in the Custom House building at New York, on the proposed increases in freight rates. The commission has been informally told that the railways will ask for a postponement of the hearing until about September 1.

The proposed increase in rates on live stock between Missouri river and Mississippi river points has been suspended at the request of the Interstate Commerce Commission. Existing rates are 14½ cents per 100 lbs., and it was proposed to increase them to 17 cents, effective August 15. There is a complaint pending against the present rates which went into effect July 1. Prior to that date the rate was 13 cents.

The National Industrial Traffic League has asked that the railways do nothing in the way of altering or abolishing the present rules for storing and reconsigning goods in transit until a conference between the shippers and the railways can be arranged. This does not refer to the milling in transit privilege. A committee has been appointed, of which T. C. Bradford, of the International Harvester Co., Chicago, is chairman.

The Oklahoma Oil and Gas Producers' Association has filed a complaint with the Oklahoma corporation commission against

11 Oklahoma roads, seeking reductions in the present rates on crude petroleum and fuel oil. The rates on these commodities were advanced by the roads after the federal court issued an injunction restraining the corporation commission from enforcing rates previously fixed by it. The complainant alleges that if the present rates are kept in effect shipments of crude petroleum and fuel oil will be prevented.

The Virginia Fruit Growers' Exchange has filed a complaint with the Interstate Commerce Commission against the Baltimore & Ohio, Norfolk & Western, Western Maryland and Cumberland Valley asking the commission to suspend increased rates on fruit pending investigation. The complaint says that the railways have increased the rate on fruit by about 20 per cent. The complaint says that the Georgia fruit crop this season is greatly in excess of the average and that the members of the exchange are experiencing great difficulty in marketing their fruit in eastern seaboard cities.

The Toyo Kisen Kaisha, which operates steamers between Japan and the United States, and has for a number of years had traffic agreements with the Southern Pacific has given up these arrangements and has made an agreement with the Western Pacific, effective Jan. 26. The traffic for Pacific coast export on the Union Pacific and Southern Pacific forms only a very small percentage of the total traffic and no great efforts were made on the part of the Southern Pacific to continue its agreement with the Japanese line. The Harriman lines control the Pacific Mail S. S. Co., so that they have a line of their own to Japan.

The Northwestern Association of Railroad Commissioners at a meeting in Chicago last week decided to ask the lines in eastern territory to add two classes to the Official Classification. It is stated that if the roads refuse a petition will be presented to the Interstate Commerce Commission. Representatives of the commissions of Wisconsin, Michigan, Illinois, Ohio and Indiana attended the meeting. A committee composed of W. J. Wood of the Indiana Commission, O. P. Gothlin of the Ohio Commission and C. L. Glasgow of the Michigan Commission was appointed to collect data in support of the proposition. The members of these commissions believe that there are defects in the existing Official Classification which can be cured only by adding two classes to it.

What are known as the back haul tariffs from Portland, Seattle and Tacoma to points in the state of Washington have been suspended by the Interstate Commerce Commission pending an inquiry into their reasonableness. The tariffs were to have become effective August 1 on the Northern Pacific, but the action of the commission restrained the line from putting them into effect. The proposed advance in the back haul rates were made by the Northern Pacific in the face of a decision of the commission that the rates ought to be reduced 20 per cent. In the hearing of the back haul case last autumn by the full commission it was agreed by the railways that a reduction of 16½ per cent. probably would be fair. The hearing in the matter will be held in Chicago August 29 by George N. Brown, chief examiner for the commission.

July Anthracite Coal Shipments.

There was a decrease in the shipments of anthracite coal in July as compared with June, 1910, of 1,196,064 tons, the July output being 4,202,059 tons as against 5,398,126 tons in June. Notwithstanding this decrease the shipments in July were 181,294 tons more than in July, 1909. The output for July bears a better relation to the demand than that of any other month this year, and there is evidence that the restriction in tonnage will continue throughout this month and September.

The total shipments by the leading companies and the percentages of each to the total shipments were as follows, in July, in tons:

	1910		1909	
	Tons.	Per cent.	Tons.	Per cent.
June.				
Phila. & Read.....	673,703	16.03	604,512	15.03
Lehigh Valley.....	259,426	18.07	695,179	17.29
Central of N. J.....	565,050	13.45	493,502	12.27
Del., Lack & West.....	672,844	16.01	757,388	18.84
Del. & Hud.....	396,334	9.44	409,755	10.19
Penna. R.R.....	309,601	7.37	365,707	9.10
Erie.....	567,339	14.22	461,219	11.47
N. Y., O. & W.....	227,262	5.41	233,037	5.81
Totals	4,202,059		4,020,765	

REVENUES AND EXPENSES OF RAILWAYS.

MONTH OF JUNE, 1910.
(See also issue of August 6.)

Crop Conditions.

The crop reporting board of the Department of Agriculture estimates that the average condition of corn on August 1 was 79.3, as compared with 85.4 last month, 84.4 on August 1, 1909, and 82.1 the average on August 1 for the past 10 years.

Comparisons for important corn states follow:

States.	Per cent. of U. S. acreage in state.	Condition				
		Aug. 1, 1910.	July 1, 1910.	Aug. 1, 1909.	10-yr. average.	August 1, 1908.
Illinois	9.3	84	84	91	84	84
Iowa	8.3	80	84	85	84	84
Texas	7.9	78	82	60	73	73
Kansas	7.8	60	83	90	76	76
Missouri	7.2	82	82	88	80	80
Nebraska	7.1	65	86	83	82	82
Oklahoma	5.1	57	82	63	78	78
Indiana	4.5	87	84	94	85	85
Georgia	4.0	87	93	90	87	87
Ohio	3.5	86	85	90	85	85
Tennessee	3.3	87	88	78	82	82
Kentucky	3.2	84	85	87	85	85
Alabama	3.1	91	94	76	82	82
Mississippi	2.8	91	96	69	76	76
North Carolina	2.7	85	89	78	86	86
Arkansas	2.5	86	88	76	79	79
Louisiana	2.2	94	89	88	81	81
South Carolina	2.1	86	87	84	82	82
South Dakota	1.9	86	85	92	86	86
Virginia	1.9	89	87	77	88	88
Michigan	1.8	76	78	85	82	82
Minnesota	1.5	82	87	91	83	83
Pennsylvania	1.4	88	88	85	85	85
Wisconsin	1.4	70	83	82	83	83
United States	100.0	79.3	85.4	84.4	82.1	82.1

Preliminary returns indicate a winter wheat yield of about 15.8 bushels per acre, or a total of about 458,294,000 bushels, as compared with 15.8 and 446,366,000 bushels, respectively, as finally estimated last year. The average quality of the crop is 92.6, against 90.3 last year.

Comparisons for important winter wheat states follow:

States.	1910, preliminary			1909		
	Yield, pr acre, Production, bush. bush.	Quality, per cent.	Yield, pr acre, Production, bush. bush.	Quality, per cent.	Yield, pr acre, Production, bush. bush.	Quality, per cent.
Kansas	14.5	58,392,000	92	14.5	85,478,000	88
Indiana	15.6	40,981,000	91	15.3	33,124,000	82
Illinois	15.0	32,085,000	92	17.4	31,494,000	91
Nebraska	16.8	33,230,000	95	19.4	45,590,000	95
Ohio	16.2	31,493,000	91	15.9	23,532,000	86
Missouri	13.8	25,130,000	91	14.7	28,562,000	92
Pennsylvania	17.8	27,697,000	94	17.0	26,265,000	98
Oklahoma	16.0	24,896,000	96	12.8	15,680,000	94
Texas	15.0	18,750,000	95	9.1	5,050,000	87
California	17.5	19,040,000	91	14.0	11,550,000	92
Tennessee	11.5	10,200,000	89	10.4	8,320,000	85
Michigan	17.7	15,381,000	93	18.8	14,570,000	94
Virginia	12.8	10,048,000	93	11.2	8,848,000	86
Maryland	17.4	13,816,000	95	14.5	11,165,000	88
Kentucky	12.8	9,357,000	88	11.8	7,906,000	81
Washington	20.5	13,858,000	90	25.8	20,124,000	98
United States	15.8	458,294,000	92.6	15.8	446,366,000	90.3

The average condition of spring wheat on August 1 was 61.0, as compared with 61.6 last month, 91.6 on August 1, 1909, and 81.9 the 10-year average on August 1. Comparisons for important spring wheat states follow:

States.	Condition				
	Per cent. of U. S. acreage in state.	Aug. 1, 1910.	July 1, 1910.	Aug. 1, 1909.	10-yr. average.
North Dakota	36.6	84	45	93	79
Minnesota	29.8	77	78	92	83
South Dakota	18.5	70	64	92	83
Washington	4.2	62	68	90	85
United States	100.0	61.0	61.6	91.6	81.9

The average condition of the oat crop on August 1 was 81.5, as compared with 82.2 last month, 85.5 on August 1, 1909; 76.8 on August 1, 1908, and 82.6 the 10-year average on August 1.

The proportion of last year's oat crop in farmers' hands on August 1 was about 6.3 per cent., or 63,249,000 bushels, as compared with 3.3 per cent. (26,323,000 bushels) of the 1908 crop on hand August 1, 1909, and 5.8 per cent. (50,394,000 bushels) the average proportion on hand for the past 10 years on August 1.

The average condition of barley on August 1 was 70.0 as compared with 73.7 last month, 85.4 on August 1, 1909; 83.1 on August 1, 1908, and 85.3 the 10-year average on August 1. About 7,263,000 bushels, or 4.3 per cent., of the 1909 crop was on farms August 1.

The preliminary estimate of the area of rye harvested is 1.7 per cent. less than last year. The preliminary estimate of yield per acre is 16.3 against 16.1 bushels last year, 16.4 bushels in 1908, and a 10-year average of 16.0 bushels. The indicated total

production is 32,088,000 bushels against 32,239,000 finally estimated in 1909 and 31,851,000 bushels in 1908. The quality of the crop is 92.7 against 92.9 last year.

Date of Hearing on Western Freight Rate Increases.

Committees representing the legal, traffic, accounting and operating departments have been appointed by the western railroads to prepare and present their cases for an advance in freight rates to the Interstate Commerce Commission. The committees are now at work gathering and compiling data and holding conferences. The commission will hold its first hearing on the question of an advance in freight rates in the west at Chicago on August 22. The committees are composed of the following:

Legal.—T. J. Norton, general attorney Atchison, Topeka & Santa Fe; William Ellis, commerce attorney Chicago, Milwaukee & St. Paul; W. F. Dickinson, general attorney Chicago, Rock Island & Pacific.

Traffic.—E. B. Boyd, assistant to the vice-president Missouri Pacific; F. B. Bowes, general traffic manager Illinois Central; Frank P. Eyman, assistant freight traffic manager Chicago & North Western.

Accounting.—C. I. Sturgis, general auditor Chicago, Burlington & Quincy; W. E. Bailey, general auditor Atchison, Topeka & Santa Fe; J. W. Newlean, auditor Chicago Great Western.

Operating.—Frank E. Ward, general manager Chicago, Burlington & Quincy; W. J. Jackson, vice-president and general manager Chicago & Eastern Illinois; William D. Cantillon, assistant general manager Chicago & North Western.

Holding Trains for Connections.

Operating officers of the Delaware & Hudson said before the New York Public Service Commission, Second district, that the holding of 90 passengers in train No. 338 on July 23 at Plattsburg and Bluff Point from 5:30 until 9:30 p.m. was faulty railway operation.

Superintendent Benjamin stated that the train was held to await the arrival of passengers from New York City in through sleepers destined to Lake Placid. He added that if these passengers from New York City were unable to make connection on train No. 338 they would be compelled to remain over night in Plattsburg. Answering an inquiry of Chairman Stevens, Mr. Benjamin said that no steps were taken to ascertain how many of such passengers there were.

Commissioner Olmsted queried him as to the costs of making up an additional train for the convenience of these passengers to their destination and the hauling of train No. 338 through to Lake Placid without waiting for the connection from the south. Mr. Benjamin said that this could have been done, and that possibly the only motive which prevented the company from making up the additional train was the item of expense.

Asked as to his idea of what would be a reasonable maximum time for the holding of train No. 338 at Plattsburg Mr. Benjamin said, that in view of the light traffic on the Chateaugay division he believed an hour should be allowed. As to this, however, he adopted the suggestion of the commission that he confer with his superiors.

He also agreed to the suggestion of Chairman Stevens that some inquiry should be made to ascertain the number of passengers on the trains from the south who intend to board No. 338.

W. C. Brown on Crop Prospects.

W. C. Brown, president of the New York Central lines, before sailing for a five weeks' trip abroad, said to *The Wall Street Journal*:

"Notwithstanding the government crop report of Monday, with the conditions of which I am entirely familiar, from reports received by me up to last evening, I believe a larger number of bushels of corn will be harvested this year than last. A telegram from Kansas stated that they had twelve hours of steady rain in Barton, Rena, Chase and Macpherson counties, and that large areas where the crop had been given up as an almost total failure will produce nearly one-half of the normal crop. I believe there will be enough instances of this kind to bring the total corn crop above 3,000,000,000 bushels."

Continuing his expressions of opinion on the crop situation and his reasons therefor, Mr. Brown said: "The result of the threshing of small grain in Oklahoma, Kansas, Nebraska and

Iowa, shows an exceptionally good quality and considerable increase in quantity over the yield that was expected at harvest time. The best evidence of the prospect of a reasonably abundant harvest is the freedom with which farmers are selling their wheat which is coming into western markets in larger quantities than at this time of the year for several years past. The promise of normal crops, which is fast becoming a reality, to my mind insures prosperous conditions during the coming year."

In reply to a question regarding the number of stored freight cars, Mr. Brown said: "The number of stored or idle freight cars is decreasing very rapidly. I am of the opinion that in less than two months from now most of the railways, especially in the agricultural sections, will experience a heavy shortage of cars.

"As proof of my optimism," said Mr. Brown, "I have left instructions to arrange for contracts for 260 locomotives for delivery during the last two months of this year and in the early months of 1911. These orders have been held until a reasonably definite line could be had on the crops for another year, and I am so well assured that the result is going to be satisfactory that instructions have been given to place orders for these engines." In reply to a question, Mr. Brown said that the new locomotives were needed mainly in the freight department.

"I am more than conservatively optimistic; I am exceedingly hopeful of a fine year's business, trade, commerce and all that goes to make for the prosperity of a country like this. I think conditions point to a great revival of trade, and again I repeat I place more confidence in the private reports sent to me from all sections of the country than I do in the official government report on crop conditions."

Building of Spur Tracks by Commission Order.

In an opinion furnished to W. D. Williams, of the Texas state railway commission, the attorney-general's department held that the legislature is not competent to enact a law giving the commission the power to require railway companies in Texas to construct sidings or spur tracks to private industries which do not touch the right of way of the railway but are situated reasonably near by, and to apportion the expenses of constructing such sidings or spur tracks between the railways and the owners of industries to which the same are contracted. The department further advises Commissioner Williams that it is doubtful if such an act would be valid or constitutional, as it would give the railways the right to condemn private property for such purposes. Continuing, the opinion says: "One of the main purposes for the creation of the railway commission by the legislature was to prevent unjust discriminations on the part of the railways. We do not think it would be disputed that an act of the legislature requiring the railway commission or giving authority to the railway commission to itself discriminate in favor of any particular persons or industries would be invalid.

"Unless the act proposed required railway companies to build spur tracks or gave the commission authority to require railway companies to construct spur tracks to all private industries which might make demand for such construction, the question would arise as to whether industries to which spur tracks were not for one reason or another constructed were not discriminated against by the order of the commission requiring a company to build spur tracks to competing industries, although such competing industry might be more favorably situated in reference to easy connection with the railway."

Rate Increases in Pennsylvania.

Following the action of the Pennsylvania Railroad in raising most of its one-way passenger rates in the state of Pennsylvania from 2 cents to 2½ cents a mile, the Philadelphia, Baltimore & Washington and the Northern Central, both subsidiaries of the Pennsylvania, have raised their passenger rates to the 2½ cents a mile basis. This does not, of course, affect commutation rates. On August 8 the passenger rates on the Erie between points in Pennsylvania were raised from 2 cents to 2½ cents a mile.

The Corn Belt Route.

Advertising matter of the Chicago Great Western shows that this road will be known hereafter as the Corn Belt Route. It was formerly known as the Maple Leaf Route.

Through Passenger Service on the Western Pacific.

The first train in the regular through passenger service on the Western Pacific leaves Salt Lake City at 11:30 p.m. August 22 and is due in San Francisco at 12 noon on August 24. The first eastbound train leaves San Francisco at 6 p.m. on August 22 and is due at Salt Lake at 8 a.m. August 24. For the present one passenger train a day each way will be run and will make connections at Salt Lake with the Denver & Rio Grande train Nos. 3 and 6. A special train is to be run from San Francisco, arriving at Salt Lake August 19, carrying railway officers and newspaper men.

INTERSTATE COMMERCE COMMISSION.

Discrimination in Express Rules.

August H. Strauss v. American Express Co. et al. Opinion by Commissioner Clements.

Defendants' refusal to gather and deliver interstate express packages to patrons on Green Bay avenue, in Milwaukee, north of Hadley street, while extending that service to other sections referred to, results in unjust discrimination. (19 I. C. C., 112.)

Rate on Oil Reasonable.

Record Oil Refining Co. et al. v. Midland Valley Railroad et al. Opinion by Commissioner Clements.

Rate on oil from Muskogee, Okla., to New Orleans, La., of 17½ cents per 100 lbs., carloads, not found to be unreasonable. Complaint dismissed. Any unjust relation of rates outbound from the refineries at Baton Rouge and New Orleans not within the scope of the pleadings in this case. (19 I. C. C., 132.)

No Jurisdiction in Alaska.

Humboldt Steamship Co. v. White Pass & Yukon Route et al. Opinion by Chairman Knapp.

Following the decision *In the Matter of Jurisdiction over Rail and Water Carriers Operating in Alaska*, 19 I. C. C., 81, complaint asking for establishment of through routes and joint rates from Seattle, Wash., to points in Alaska dismissed because the commission is without jurisdiction over carriers operating in Alaska. (19 I. C. C., 105.)

Advance in Flour Rate Permitted.

Banner Milling Company v. New York Central & Hudson River et al. Opinion by Commissioner Prouty.

In the rehearing of these cases, along with the *Jennison case*, 18 I. C. C., 113, it appeared that either the commission must allow an advance in the rates on flour and other grain products from Buffalo to New York and New England points, or it must, in substance, require a reduction from all territory west of Buffalo. In view of the whole situation, it seems to the commission the wisest course to permit the advance from Buffalo. The order in No. 1197 has already expired by its own limitation; but the order in No. 1535, having still a short time to run, will be rescinded. (19 I. C. C., 128.)

Railway Held Liable for Misrouting.

Willson Brothers Lumber Co. v. Norfolk Southern et al. Opinion by Commissioner Harlan.

In accepting a shipment at a point in North Carolina for carriage to a point in the state of Ohio, the initial carrier assumed the burden of giving the shipper the advantage of the cheapest reasonably direct route; but not being well advised of the available routes, it neither asked instructions of the shipper nor made inquiry of connecting lines. It is held that it is liable to the shipper for the excess charge resulting from its mistake in delivering the shipment to the wrong connection. (19 I. C. C., 293.)

Alpha Portland Cement Co. v. Delaware, Lackawanna & Western et al. Opinion by Commissioner Harlan.

The consignor noted on the bill of lading a route and also a rate which was legally in force only over another route. Held that the initial carrier ought to have forwarded the shipment by the route over which the specified rate applied instead of by the named route which carried a higher rate. (19 I. C. C., 297.)

STATE COMMISSIONS.

The Railroad Commission of Louisiana finds that the practice of charging a lower rate on cord wood during the summer months than is charged during the winter is reasonable. The commission holds that this lower summer rate induces this low grade traffic to move at a time when cars are more plentiful than they are in winter and that therefore the discrimination is a reasonable one.

The Railroad Commission of Louisiana has ordered certain railways to carry passengers on freight trains. It finds that many railways in Louisiana are carrying passengers on freight trains and that schedules of passenger trains on certain railways, or on parts of certain lines, are such that trains run at night, making it extremely inconvenient for passengers to use the regular passenger trains. The commission says that many of the larger railways in the state are furnishing a splendid passenger service, operating trains frequently, and on convenient schedules. A general order, therefore, requiring all railways to carry passengers on freight trains is not made but the order is confined to certain lines.

The Railroad Commission of Louisiana has decided that its proposed order requiring the railways of Louisiana to keep on sale at all agency stations interline tickets or blank forms to be sold to any points on a connecting line, could not reasonably be put in force, and the proceedings in this proposed order have been discontinued. The commission, in its opinion, says that the expense of printing the supply of tickets necessary to supply each agency station would be enormous and the skeleton form of ticket appears to be undesirable in the hands of the average agent at the small country stations, as it requires the utmost care and some degree of training and experience to fill out such a ticket correctly. Errors only annoy passengers and subject them to delays and often additional expense.

COURT NEWS.

The Lake Shore & Michigan Southern, lessee of the Jamestown, Franklin & Clearfield, has filed a bill in equity against the county of Mercer to restrain the county officers from collecting the penalty of \$1,000 in each case where the plaintiff has charged more than 2 cents a mile in its passenger tariffs.

Judge J. E. Sater, of the United States district court, in the case of Ralph E. Westfall v. Hocking Valley and Chesapeake & Ohio has sustained the decision of Judge E. B. Kinkead, of the Ohio court, in his refusal to permit the Chesapeake & Ohio to vote the stock of the Hocking Valley. The injunction against voting the stock was sought on the ground that the state laws of Ohio provided that one railway, whether incorporated in Ohio or in another state, cannot own and vote stock in another domestic company.

The Louisville & Nashville has lost a suit in the Federal Circuit Court at Cincinnati in which the plaintiff, Edward S. Dickinson, a commission broker, sought to recover \$154,081 excess freight charges which accrued through the railway company changing the routing he had named for a shipment of phosphate rock. The defense set up was that the route named by the shipper was congested with freight and to have held the cars in its yards would have caused a like condition. The court held that neither the route nor the rate could be changed by the carrier without the consent of the shipper and this not having been done it was liable for the amount claimed.

Suit has been filed in the United States District Court by John H. Jordan, United States District Attorney, against the Baltimore & Ohio for the recovery of penalties aggregating \$2,000 on four alleged violations of the "hours of service" act of 1908. The action was brought at the request of the Interstate Commerce Commission, who furnished the information on which the suit is based. It is charged the railway required and permitted certain of its employees engaged in moving interstate traffic to remain on duty for a period longer than sixteen consecutive hours, and that the employees again went on duty without having remained away from their employment for at least ten consecutive hours.

RAILWAY AGE GAZETTE.

Railway Officers.

ELECTIONS AND APPOINTMENTS.

Executive, Financial and Legal Officers.

W. A. Blasing has been appointed acting auditor of the Gulf, Texas & Western, with office at Jermyn, Tex.

E. M. Calhoun, chief clerk to the president of the Kansas City Southern at Kansas City, Mo., has been appointed assistant to the president.

O. O. Axley has been appointed treasurer of the Warren & Ouachita Valley Railway, succeeding N. H. Clapp, Jr., deceased, with office at Warren, Ark.

George T. Cutts has been appointed comptroller of the Missouri, Kansas & Texas, with office at St. Louis, Mo., succeeding Robert W. Maguire, resigned on account of ill health.

Newman Erb, chairman of the board of directors of the Ann Arbor, has been elected president of the Chattanooga Southern. Henry W. de Forest has been elected vice-president, and H. B. Blanchard, secretary of the Ann Arbor, has been elected secretary and treasurer.

Operating Officers.

G. H. Waldo, superintendent of car service of the Cincinnati, Hamilton & Dayton, with office at Cincinnati, Ohio, has resigned.

A. R. Duncan has been appointed superintendent of car service of the Cincinnati, Hamilton & Dayton, with office at Cincinnati, Ohio, succeeding G. H. Waldo, resigned.

M. W. Jones, secretary to the vice-president of the Guayaquil & Quito Railway, has been appointed chief despatcher, with headquarters at Huigra, Ecuador, succeeding G. C. Wendorf.

T. H. Hayden, trainmaster of the Kentucky & Indiana Bridge & Railroad Company at Louisville, Ky., has been appointed superintendent, with office at Louisville, and the office of trainmaster has been abolished.

F. J. Bechely has been appointed general superintendent of the Gulf, Texas & Western, with office at Jermyn, Tex. The duties of the general superintendent have recently been performed by the assistant to the president.

H. G. Sleight, car accountant of the Vandalia at Terre Haute, Ind., has been retired on a pension. Mr. Sleight has held the position of car accountant for 30 years, and has been in the service of the Vandalia for 36 years.

The following officers of the Denver, Northwestern & Pacific have resigned: W. A. Deuel, general manager; G. R. Simmons, assistant general manager and purchasing agent, and C. A. Parker, superintendent of telegraph, all with offices at Denver, Colo.

T. G. Akers has been appointed trainmaster of the 25th and 26th districts of the Grand Trunk, with office at Battle Creek, Mich., succeeding as trainmaster of the 26th district H. W. Matthews, assigned to other duties. F. G. Bement, trainmaster at Battle Creek, has been transferred as trainmaster to Durand, succeeding O. F. Clark, transferred as trainmaster to Pontiac.

Traffic Officers.

D. B. Aungst has been appointed commercial agent of the Erie Despatch, with office at Akron, Ohio.

Owing to prolonged illness, J. S. Wood, assistant general freight agent of the Lehigh Valley, has resigned.

M. N. Betzner has been appointed a general agent of the Chicago & North Western, with office at Sioux City, Iowa.

William Hess has been appointed an assistant claim agent of the Chicago, Indianapolis & Louisville, with office at Chicago.

James Donohue has been appointed a traveling freight agent of the St. Louis & San Francisco, with office at Oklahoma City, Okla.

H. D. Dutton has been appointed general agent in the passenger department of the Kansas City, Mexico & Orient, with office at Kansas City, Mo.

L. O. Scoville, traveling freight agent of the Kansas City Southern at Joplin, Mo., has been appointed a traveling freight

agent, with office at Kansas City, Mo. W. D. Riley succeeds Mr. Scoville.

George L. Williams, commercial agent of the Chicago, Milwaukee & St. Paul, at Cincinnati, Ohio, has resigned, effective September 1, to engage in other business.

A. K. Helton has been appointed a commercial agent of the New York Central lines and agent of the Blue line, with office at Indianapolis, Ind., succeeding C. R. Watson, retired.

W. H. Amerine, soliciting freight agent of the Atlanta & West Point at New Orleans, has been appointed commercial agent, with office at Augusta, Ga. W. B. Terhune, commercial agent at Cincinnati, succeeds Mr. Amerine.

E. A. Donnelly, traveling freight agent of the Chicago, St. Paul, Minneapolis & Omaha, at Grand Forks, N. Dak., has been appointed commercial agent at Minneapolis, Minn., succeeding E. E. Jones, resigned. A. R. Witherspoon, traveling agent, succeeds Mr. Donnelly.

Charles J. Kays, city passenger agent of the Chicago & Alton and the Iowa Central, at Peoria, Ill., has been appointed general agent, passenger department, of the Chicago & Alton, with office at Denver, Colo., succeeding A. D. Perry, retired. E. D. Lappin succeeds Mr. Kays.

William Bremer has been appointed a traveling freight and passenger agent of the Denver & Rio Grande and the Western Pacific, with office at Cincinnati, Ohio. R. P. Ober has been appointed a traveling freight agent of the Western Pacific, with office at San Francisco, Cal.

R. C. Nichols, general agent of the Denver & Rio Grande at Chicago, has been appointed general agent of the Denver & Rio Grande and the Western Pacific at New York. H. E. Tupper, general Eastern passenger agent at New York, has been appointed city passenger agent at New York.

G. H. Westcott, traveling freight agent of the Chicago, Milwaukee & St. Paul, at Duluth, Minn., has been appointed commercial agent, with office at Buffalo, N. Y., succeeding J. H. Skillen, whose appointment as New England freight and passenger agent has been announced in these columns.

Stanley R. Heer, freight solicitor in connection with the St. Paul agency of the Union Line, Pennsylvania Lines West of Pittsburgh, has been appointed traveling freight solicitor, in connection with the Denver agency, succeeding S. J. Alexander, whose appointment as agent at Omaha, Neb., has been announced in these columns. Walter M. Walker succeeds Mr. Heer.

Engineering and Rolling Stock Officers.

H. A. Sumner, chief engineer of the Denver, Northwestern & Pacific at Denver, Colo., has resigned.

G. I. Evans, chief draftsman of the Canadian Pacific, at Montreal, Que., has been appointed mechanical engineer.

H. L. Jace has been appointed master mechanic of the South Dakota Central, with offices at Sioux Falls, S. D., succeeding C. A. Swan, resigned.

C. H. Hogan, division superintendent motive power of the New York Central & Hudson River at Depew, N. Y., has been appointed assistant superintendent motive power, with office at Albany, N. Y.

L. L. Wood has been appointed acting superintendent of motive power and machinery of the Evansville & Terre Haute, with office at Evansville, Ind., succeeding G. H. Bussing, resigned to go with another company.

Incident to the taking over of the Chicago, Cincinnati & Louisville by the Chesapeake & Ohio, L. N. Jackson has been appointed engineer of maintenance of way of the Chesapeake & Ohio of Indiana, succeeding G. S. Foster.

J. B. Canfield, master mechanic of the Boston division of the Boston & Albany, has been appointed master mechanic of the Albany division, with office at West Springfield, Mass., succeeding A. J. Fries, promoted. F. A. Butler succeeds Mr. Canfield, with office at Beacon Park, Allston, Mass.

Purchasing Officers.

J. R. Frink has been appointed purchasing agent of the Macon, Dublin & Savannah, with office at Macon, Ga.

E. B. Sebastian, acting fuel agent of the Chicago, Rock Island & Pacific, has been appointed fuel agent, with headquarters at Chicago.

Railway Construction.

New Incorporations, Surveys, Etc.

ALBERTA & GREAT WATERWAYS.—This company, which was organized to build from Edmonton, Alb., north to McMurray, on the Athabasca river, with a number of branch lines, in all about 350 miles, has failed to meet the first instalment of interest on its bonds. The province of Alberta has met the obligations and is now in possession of the charter. It is thought that the line will be built as a government enterprise. (April 8, p. 969.)

ATCHISON, TOPEKA & SANTA FE.—The railroad commission of Texas has been notified that the new branch line from San Angelo, Texas, northwest to Stirling City, 42 miles, is practically finished and ready for operation.

CHICAGO, MILWAUKEE & PUGET SOUND.—The Isabel branch, extending from Mobridge, S. Dak., west of Isabel, 59 miles, has been opened for business. A new branch of the Columbia division, extending from St. Maries, Idaho, west to Purdue, 50 miles, thence over the tracks of the Washington, Idaho & Montana to Bovill, two miles, has been opened for business.

COLORADO & SOUTHERN.—Press reports indicate that this company will build a connecting link from Wellington, Colo., north to Cheyenne, Wyo. This will connect the northern end of the system with the at present separated line running from Cheyenne north to Orin Junction.

CRYSTAL CITY & UVALDE.—This road has been extended from Crystal City, Tex., south to Carrizo Springs, 112 miles. (Nov. 26, 1909, p. 1036.)

FRANKLIN & ABBEVILLE.—The extension from New Iberia, La., northwest to Milton, 12.7 miles, has been opened for business. (March 25, p. 850.)

MANISTEE & NORTHEASTERN.—The Manistee River branch has been extended from Sigma, Mich., east to Grayling, 17 miles.

MIDLAND-PENNSYLVANIA.—This company has entered a mortgage for \$2,000,000 to secure a bond issue in like amount for the construction of this line from Millersburg, Pa., northeast via Gratz, to Ashland, about 48 miles. (July 15, p. 142.)

MISSOURI PACIFIC.—The Kiowa branch of the Wichita division has been extended from Kiowa, Kan., west to Hardtner, 10.4 miles.

NATIONAL RAILWAYS OF MEXICO.—It is reported that this company will soon place an order for about 25,000 tons of rails in Europe, and that about 15,000 tons will be ordered from Belgium mills and the remainder probably in Spain. These rails are to be used in relaying the track on the various lines of the government railway system. The large steel and iron works at Monterey, Mex., is said to be operating its rail department at full capacity but that the output is inadequate. It is announced that the 56-lb. rails, now in track on the branch lines, are to be replaced with new 75-lb. sections.

An officer writes that construction work is under way by Cia Baueorio de Fomento y Bienes Raicas, Mexico City, and Juan Phillips, Durango, Mex., on 65 miles of line on the extension from Durango southwest towards Mazatlan. The maximum grade westward will be 2 per cent. and eastward 1.5 per cent. There will be one 709-ft. cantilever bridge, a number of stone culverts and one tunnel 722 ft. long.

PITTSBURGH & SHAWMUT.—See Pittsburgh, Shawmut & Northern.

PITTSBURGH, SHAWMUT & NORTHERN.—Press reports indicate that about two-thirds of the grading on this line from Knobdale, Pa., to Freeport, has been completed. (May 27, p. 1325.)

ST. LOUIS, FORT SMITH & DALLAS.—An officer writes that this company has been organized to build from Arkoma, Okla., just across the state line from Ft. Smith, Ark., southwest to Wiburton, about 70 miles. Active work has not yet commenced, but very probably will be by October. The engineers may be put in the field before this time.

WICHITA FALLS & NORTHWESTERN.—The new line from Altus, Okla., west to Hollis, 35 miles, has been opened for business.

WICHITA, MCPHERSON & GULF.—Chartered in Kansas, with \$2,500,000 capital, to build a north and south line from Aransas City, Kan., northwest through Wichita and Newton to McPherson. W. C. Edwards, Wichita, is interested.

Railway Financial News.

BOSTON & ALBANY.—N. W. Harris & Co., New York, and Bond & Goodwin, Boston, have bought \$2,000,000 25-year 4 per cent. bonds of the Boston & Albany and are offering these bonds at 97, yielding about 4.20 per cent.

BRINSON RAILWAY.—This company, which took over the old Savannah Valley Railroad, has issued \$275,000 7 per cent. cumulative preferred stock to retire \$275,000 Savannah Valley Railroad bonds which are callable at par. Wm. Morris Imbrie & Co., New York, and the National City Bank have bought \$420,000 first mortgage 5 per cent. bonds of 1910-1935, and, having sold the greater part of these bonds, are offering the balance at 96, yielding about 5.30 per cent. on the investment. The bonds are secured by a first mortgage on the total 72 miles of road running from Millhaven, Ga., to Savannah.

BUFFALO & SUSQUEHANNA.—H. I. Miller, receiver of the Buffalo & Susquehanna Railway, has been made also receiver of the Buffalo & Susquehanna Railroad. The railway company, which owns from Buffalo, N. Y., to Wellsville, 86 miles, leased the line of the railroad company, which runs from Wellsville to Sagamore, Pa., and has a total mileage of 270. Interest on bonds of the railroad was defaulted on July 1, which broke the lease.

CANADIAN PACIFIC.—The directors have declared a semi-annual dividend of 3½ per cent. and an extra dividend of ½ per cent. from the proceeds of land sales. This places the common stock on a 7 per cent. annual basis, as compared with 6 per cent. previously paid annually. The ½ per cent. paid from the proceeds of land sales is the same as was paid six months ago.

CENTRAL OF GEORGIA.—The directors have decided not to pay any dividends on the three series of income bonds. The directors report each year by September 1 to the trustees of the income mortgage as to whether or not interest has been earned on these bonds. Suits are now pending in the courts looking toward an order compelling the directors to declare dividends on the income bonds for 1907, and if these suits are successful, it is planned to bring similar suits for dividends in 1908 and 1909.

CHATTANOOGA SOUTHERN.—The securities of this company, which were sold at auction, were bought by Newman Erb and associates for \$50,000. There are further claims to be settled before the receiver can be discharged.

CHESAPEAKE & OHIO.—See an item in regard to this company in Court News.

DUNKIRK, ALLEGHENY VALLEY & PITTSBURGH.—Stockholders have authorized a new first mortgage to secure \$5,000,000 four per cent. bonds of 1910-1960, of which \$2,900,000 bonds are to be issued at once to retire a like amount of 7 per cent. bonds. Stockholders also voted to approve the modification of the lease to the property of the New York Central & Hudson River so as to provide for payment of interest by the New York Central on the new bonds in addition to the annual dividend of 1½ per cent. on the \$1,300,000 stock.

HOCKING VALLEY.—See an item in regard to this company in Court News.

MISSOURI, KANSAS & TEXAS.—Stockholders have authorized a new mortgage securing \$125,000,000 bonds.

NEW YORK, WESTCHESTER & BOSTON.—This subsidiary of the New York, New Haven & Hartford has asked the New York Public Service Commission, Second district, for permission to issue \$5,000,000 first mortgage 5 per cent. bonds of 1910-1960. Of these bonds \$953,446 are to be issued to repay money advanced by the City & County Contract Co. in connection with the building of the branch line from Mt. Vernon, N. Y., to White Plains. The remaining bonds are to be issued to meet the cost, estimated at \$4,294,549, of completing and electrifying this branch.

NORTHERN CENTRAL.—The directors of the Pennsylvania Railroad have approved the release of the Northern Central for 999 years on the basis of a 40 per cent. stock dividend, a cash

dividend of 10 per cent. and a guaranteed dividend of 8 per cent. Stockholders of the Northern Central will act on the matter about October 14.

PITTSBURGH, CINCINNATI, CHICAGO & ST. LOUIS.—The New York Stock Exchange has listed \$4,000,000 additional consolidated mortgage 4 per cent. bonds, due 1957, guaranteed principal and interest, by the Pennsylvania Company. These bonds were issued to refund second mortgage 7 per cent. bonds of the Jeffersonville, Madison & Indiana, which matured July 1, 1910, and to pay for construction work already undertaken.

QUEBEC & LAKE ST. JOHN.—Bondholders met in London August 8 to consider an amended offer made by the Canadian Northern. The offer provides for the exchange of first mortgage bonds of the Quebec & Lake St. John for new stock, on the basis of £100 (\$500) bonds for £70 (\$350) new stock. The old income bonds are to be exchanged on the basis of £100 bonds for £13 (\$65) new stock. All unredeemed coupons are to be surrendered except the coupon due April 1, 1910, on the prior lien bonds.

ST. LOUIS & SAN FRANCISCO.—Speyer & Co., New York, have bought \$1,450,000 five per cent. equipment notes, Series Q, secured by equipment costing about \$1,617,000. The equipment consists of 250 steel under frame freight cars, 53 locomotives, 11 passenger train cars and six electric motor cars.

SEABOARD COMPANY.—The directors of this holding company for the Seaboard Air Line Railway have declared a semi-annual dividend of 2½ per cent. on the first preferred stock. This is the first dividend on the holding company's stock paid since the reorganization of the Seaboard Air Line. There was paid dividends of 2½ per cent. semi-annually from July 15, 1906, to July 15, 1907.

SOUTHERN INDIANA.—The Reorganizing Committee has issued a plan for the reorganization of the Southern Indiana and Chicago Southern, and this plan has been approved by the various protective committees with which all classes of securities have been deposited. The plan provides for the organization of a new company, the Chicago, Terre Haute & Bedford, which is to take over the property of the Southern Indiana and the Chicago Southern and probably the Bedford Belt railway. The new company is to authorize \$20,000,000 first and refunding mortgage 50-year bonds to bear interest not higher than 5 per cent.; \$6,500,000 fifty-year income bonds to bear interest at 4 per cent. for the first two years and 5 per cent. thereafter, interest to be cumulative after two years. The holders of income bonds are to have the right at stockholders' meetings to vote on the basis of one vote for each \$100 bonds held. There is to be issued also \$5,500,000 common stock and the \$7,537,000 first mortgage 4 per cent. bonds of the Southern Indiana are to remain undisturbed. The following table shows the basis of exchange of old securities for securities of the new company:

Holders of securities and syndicate, if depos:	Will receive in exchange				First and ref. 5s.
	P.ct.	Inc. bonds.	P.ct.	Stock.	
So. Ind. gen. mtg.	\$3,212,000	85	\$2,730,200	40	\$1,284,800
Ch. So. 1st m. bds.	3,285,000	70	2,299,500	40	1,314,000
Ch. So. coll. bonds	715,000	70	500,500	40	286,000
Syndicate certif.	1,902,500	42	799,050	58	1,103,450
Sou. Ind. stock...	11,000,000	..	..	..	..
Chic. Sou. stock...	1,500,000	..	..	..	..
To be sold .....	..	..	..	..	\$2,500,000
*Settlements, &c...	..	..	170,750	..	1,511,750
Total	\$21,614,500	..	\$6,500,000	..	\$5,500,000 \$2,500,000

*Settlements, contingencies, miscellaneous requirements of reorganization (including the sale or pledge of a portion thereof in connection with the sale of "first and refunding" bonds) not to exceed.

No allowance will be made to present holders of stock of either railway company and the Chicago Southern. See Southern Indiana.

THIRD AVENUE (NEW YORK).—The New York Public Service Commission, First district, has refused to approve the reorganization plan because, in the opinion of the commission, the value of the property does not justify the proposed capitalization, and because the probable earning capacity of the system, as estimated by the commission, for 1909 barely met the interest, \$631,600, on the 4 per cent. refunding bonds, and in 1910 and 1911 would be only 2 or 3 per cent. on the income bonds with no evidence that the stock would receive even a small dividend for many years to come.

Supply Trade Section.

The Vulcan Steam Shovel Company, Toledo, Ohio, will build a plant at Evansville, Ind., to cost \$200,000.

The Universal Car Seal & Appliance Co., Albany, N. Y., has been incorporated with a capital of \$60,000. The incorporators are: Howard Van Rensselaer, William C. Martineau, Clarence R. Martineau.

Emil Pollak, president of the Block-Pollak Iron Co., Cincinnati, Ohio, is making his usual yearly trip abroad. He is touring Germany and France in his automobile and expects to return about October 1.

The Williams All-Service Car Door Company, Clinton, Ill., has been incorporated with a capital stock of \$600,000. The incorporators are Walter Scott Williams, Charles R. Westcott and William H. H. Hastings.

Clapp, Norstrom & Riley, general sales agents of the Western Wheeled Scraper Co., Aurora, Ill., and Davenport Locomotive Works, Davenport, Iowa, have purchased a tract of land at Clyde, Ill., where they will build a shop, 60 ft. x 100 ft., to be used for handling stock implements.

The Baldwin Locomotive Works have filed papers with the secretary of state of Pennsylvania providing for an issue of \$10,000,000 first mortgage 30-year bonds to bear interest at 5 per cent. Kuhn, Loeb & Co., New York, and Brown Brothers & Co., Philadelphia, have concluded negotiations for the disposal of the entire bond issue. Brown Bros. & Co. recently underwrote a \$3,000,000 bond issue for the Standard Steel Works Co., Philadelphia.

Oswald F. Jordan, born in Berwick on Tweed, England, died Aug. 1, 1910, aged 57 years. He came to this country in his early youth and started in railroading. Six years ago he resigned as division superintendent of the Michigan Central, organizing the O. F. Jordan Company, of which he was president, manufacturing and dealing in railway construction and maintenance equipment, the principal output of the company being the Jordan spreader. The O. F. Jordan Company will continue to do business under the same name and management.

TRADE PUBLICATIONS.

Railway Car Lighting.—The Commercial Acetylene Company, New York, has issued booklet "C," describing the Commercial acetylene car lighting equipment.

Iron and Steel Stock List.—Joseph T. Ryerson & Son, New York, have issued their monthly journal and stock list for August, which contains, in addition to tabulated lists of iron and steel for machinery, etc., a number of interesting reading articles.

Electric Headlights.—R. G. Peters Manufacturing Company, Grand Rapids, Mich., has issued Bulletin No. 101 descriptive of the Premier electric headlight equipment for locomotives. The bulletin describes the complete plant and is illustrated with several engravings.

Rail, Equipment and Machinery Offerings.—Bulletin No. 111 from the Walter A. Zelnicker Supply Company, St. Louis, Mo., gives a long list of rails, track supplies, locomotives, cars, machinery and equipment which it is prepared to furnish for immediate shipment.

Locomotive Headlights.—Booklet H from The Commercial Acetylene Company, New York, illustrates and describes the standard locomotive headlight equipment made by that company. Its advantages are briefly but clearly put forth. The new trade mark adopted for this system is used for the first time in this bulletin.

Central Battery Switchboards.—The Western Electric Co., New York, has just issued its bulletin No. 1004 describing central battery, non-multiple switchboards with lamp signals, recommended for exchanges where the ultimate number of subscribers' lines will not exceed 500, and a central battery system is required with or without magneto toll or rural line connections.

Brake Beams.—The Chicago Railway Equipment Company, Chicago, has issued a handsome 6-in. by 9-in. portfolio of dimensioned mechanical drawings and halftones, illustrating standards of various types of brake beams, bolsters, side bearings, slack adjusters, journal boxes, etc. It is believed the detailed information contained in this portfolio will assist users in making satisfactory selections for all requirements and conditions of service.

Reinforced Steel Bars.—The William B. Hough Company, Monadnock block, Chicago, has issued a catalogue entitled "The Bar That Never Failed," which is descriptive of the cold twisted steel bars sold by the company. The book contains 30 pages and is illustrated with cuts of buildings in which these bars have been used. A number of useful and valuable tables are presented for the reinforced concrete designer, together with a discussion on the mechanics of reinforced concrete with standard formulas.

Electrical Apparatus.—The following bulletins have been received from the General Electric Company, Schenectady, N. Y. No. 4753 describes the G-E Mazda 400 and 500-watt incandescent lamps for standard lighting service and gives data as to the cost of the lamps and service at various voltages. Bulletin No. 4748 is devoted to intensified arc lamps. These have been designed for general illuminating purposes on direct-current multiple circuits from 100 to 125 volts, and are notable because of their high efficiency and the daylight quality of their light. A color chart shows the illuminating values of various forms of lighting as compared to daylight. Bulletin No. 475 describes different types of polyphase induction motors. The advantages of this type are its simplicity, high efficiency, the small amount of attention which it requires, the ability to carry large overloads for considerable periods without overheating, the entire absence of sparking, and quick and certain starting. Bulletin No. 4756 considers the ventilation of horizontal steam turbine alternators.

Gould Products.—An attractively printed and well arranged general catalogue, bound in substantial loose leaf covers so that supplementary sheets may be added, has been issued by the Gould Coupler Company, New York. The plants at Depew, N. Y., have steadily grown so that to-day the steel foundry has a capacity of 250 tons per day, the malleable iron plant 100 tons per day and the axle forge 200 axles per day. The capacity of the storage battery plant is said to be unlimited. There is also an electrical plant for manufacturing axle-driven dynamos for car lighting. The catalogue contains illustrations and brief descriptions of these plants followed by illustrations of the different Gould specialties, with the parts numbered for convenience in ordering, and accompanied by brief but clear cut descriptions of each device and its advantages, and lists of parts and their numbers. Wherever necessary, as for instance in the case of various sizes and designs of coupler shanks, dimensioned drawings are given, each one numbered to facilitate ordering accurately. Under the head of *freight equipment* the various types of Gould couplers and attachments are described; also the Gould friction draft gear for freight and locomotive equipment, metal draft beams, cast steel body and truck bolsters, cast steel end sills with self-contained friction buffer, friction buffers, cast steel truck side frames, Hartman ball-bearing center plates and side bearings, journal boxes, inset journal box lids, dust guards, extended metal draft beams, uncoupling brackets and axles. Under *passenger equipment* are found the different types of passenger couplers, friction draft gear, friction buffer, steel platforms with friction buffer and friction draft gear, friction buffer for stub end cars, steel draft frame for blind end cars, cast steel platform end sills, steel platforms of various types, vestibules, coupler centering device and axles. Under *locomotive equipment* is included tender couplers, spring tender buffers, pilot couplers, vestibule for tenders with friction buffer and friction draft gear and axles. Under *electric traction devices* are side operated couplers, and the radial buffer and swing coupler. Several sheets are included describing the *car lighting sets* manufactured by the Gould Storage Battery Company.

RAILWAY STRUCTURES.

AVONDALE, ALA.—The Alabama Great Southern, it is reported, will build a two-story brick and concrete depot, to cost about \$15,000.

BELVIDERE, ILL.—The Chicago & North Western has awarded a contract to J. J. Jobst, Peoria, Ill., to build a power house, 100 ft. x 110 ft., which will be equipped with five 150-h.p. boilers.

BLOOMINGTON, ILL.—The Chicago & Alton has given a contract to Westinghouse, Church, Kerr & Co., New York, to enlarge the shops and build a new \$25,000 depot. (June 17, p. 1572.)

CHADRON, NEB.—Press reports indicate that the 20-stall roundhouse and machine shops of the Chicago & North Western were burned on the night of August 2 and that 15 locomotives were badly damaged.

CHICAGO.—The Chicago, Milwaukee & St. Paul will build a brick addition containing 20 stalls to its roundhouse at Chicago avenue. It will cost about \$17,500. G. A. Johnson & Son, Chicago, are building a one-story machine shop 200 ft. x 300 ft. for the Chicago & North Western.

COLUMBIA, MISS.—The New Orleans Great Northern will, it is said, build a \$10,000 depot.

DULUTH, MINN.—The Duluth & Iron Range has given a contract to George H. Spurbeck, Two Harbors, Minn., to build a new station at Allen Junction. The building will be two stories high, the main part being 71 ft. x 24 ft., with one wing 16 ft. x 32 ft. The second story will be 24 x 42 ft. (Aug. 5, p. 264.)

ELM GROVE, W. VA.—The Baltimore & Ohio has given a contract to Dudley & Edie, Wheeling, W. Va., for building a brick and stone passenger station, to cost about \$12,000.

EL PASO, TEX.—It is reported that the El Paso & Southwestern is having plans prepared for an addition to the freight depot, to cost about \$15,000.

FORT STOCKTON, TEX.—It is said that the Kansas City, Mexico & Orient is building a \$15,000 station at this point.

HANOVER, PA.—The Western Maryland is said to have accepted the Merchants' Association's offer of a tract of land in the eastern end of the town, to be used as a site for new shops and a roundhouse.

JACKSON, GA.—Press reports indicate that the Southern Railway will erect a depot at this point.

MILWAUKEE, WIS.—The Chicago & North Western has let a contract to Pruitt & Moore, Chicago, to build a one-story brick passenger station, to cost about \$25,000.

MONTRÉAL, QUE.—The Canadian Pacific has given a contract to C. E. Deakin to build the new annex to its Windsor street station. The cost will be about \$1,000,000.

PITTSBURGH, PA.—The Huntington & Broadtop Railroad Company has bought an acre of land along its tracks at the south side of the Juniata river bridge, on which it will build a local freight depot, coal wharf and offices.

SUNBURY, PA.—The contract for the new county bridge over the Susquehanna river, to be used also by the Sunbury & North-umberland (Electric), was let to the York Bridge Company for a six-span bridge, the contract price being \$84,300. (July 1, p. 57.)

TAMPA, FLA.—Bids will be opened about September 1 for the erection of the new union station. This will be a one and two-story brick and stone building, the two-story portion being 80 ft. x 130 ft. and the one-story portion 60 ft. x 200 ft. (April 15, p. 1020.)

TITUSVILLE, PA.—The Titusville Electric Traction Company, it is reported, is contemplating the early building of an overhead bridge at Hydetown.

WAYNESBORO, MISS.—It is said that plans have been prepared by the Mobile & Ohio for a new depot.

WICHITA, KAN.—It is said the Wichita Terminal Association, Atchison, Topeka & Santa Fe and Chicago, Rock Island & Pacific will build a brick freight house to cost \$75,000.

Late News.

The items in this column were received after the classified departments were closed.

John F. Stevens, president of the Oregon Trunk Railway, says that the road will be extended across the Cascade mountains to Medford.

A press dispatch from Santiago, Chili, August 10, reports traffic on the Transandean Railway blocked by snow. The routes between New York and Coney Island are all open.

J. P. Knight has been appointed general Eastern agent of the Kansas City Southern, with office at New York, N. Y., succeeding C. E. Crane, resigned to go with another company.

The United States Steel Corporation reports its unfilled orders on hand on July 31, 1910, as 3,970,931 tons. This is a decrease of 286,863 tons from the June 30, 1910, unfilled tonnage, which was 4,257,794 tons.

Rates on cypress lumber from Gleason, Ark., to all points reached by the Missouri Pacific system are found unreasonable in a decision of the Interstate Commerce Commission. Reasonable rates for the future are prescribed.

As a means of relieving the congestion of traffic, a problem of constantly increasing difficulty, the government of France has decided to electrify the belt railway of Paris and the railway service out of St. Lazare station. The estimated expenditure involved is \$40,000,000.

Edward B. Smith & Co., Philadelphia, have bought \$2,000,000 of the new first mortgage 5 per cent bonds of the Philadelphia & Western, the proceeds of which will be used to build an extension of the road from its present line to Norristown. These bonds are part of an issue of \$4,000,000, the mortgage for which to the Philadelphia Trust Safe Deposit & Insurance Co. trustee, has just been recorded at the same time an old mortgage for \$20,000,000 to the Trust Co. of America was canceled.

It is reported that the Denver & Rio Grande has decided to begin at once extensive improvements on the line between Pueblo, Colo., and Colorado Springs. These will include building of concrete bridges over streams and arroyos, the widening of all dry gulches, heavy ballasting of the track and a general strengthening of the line. Widening of arroyos under the tracks will very largely relieve the terrific force of flood waters and it is aimed to make the concrete arches strong enough to resist floods even in very narrow channels. In the lowlands the track will be heavily ballasted with slag. This portion of the line is frequently submerged by flood water.

Darius Miller, president of the Chicago, Burlington & Quincy, made the following statement in answer to the charges recently made that the railways were padding their expense accounts, in order to help along the fight for higher freight rates: "The report from Washington printed in Sunday morning papers to the effect that the railways have been padding their expense accounts to make their profits seem small is so false and misleading that it requires unqualified denial. It is true that operating expenses, as reported for the ten months ended April 30, are much larger than those reported for the corresponding ten months of the year previous, but this is not due to the fact that the accounts are padded. It is due to the fact that we are actually spending more money on the maintenance of the properties. The report from Washington calls particular attention to the increase in the maintenance of way and structure figures. If the figures of 1909 had been compared with those for 1907, or even with those for the panic year 1908, they would have looked quite different." Mr. Miller then gives figures to bear out his statements: "The criticisms of the railways' methods of keeping their accounts is peculiarly wide of the mark, as they are being kept according to rules prescribed by the Interstate Commerce Commission itself, and it is certain that no management is now spending more on its road than is necessary to get and keep it in good condition. Surely nobody will criticize the management for spending enough money to keep the roads in shape to give good and safe service."

Equipment and Supplies.

LOCOMOTIVE BUILDING.

The Baltimore & Ohio has ordered five Mallet locomotives from the Baldwin Locomotive Works.

The Guantanamo & Western has ordered three 10-wheel locomotives from the American Locomotive Company.

The New York Central Lines have decided upon purchasing 260 locomotives, orders for about 200 of which will probably not be placed for several months. It is reported that orders for 60 of these engines have been placed, but confirmation has been impossible. It is thought that the 21 freight locomotives ordered for the Michigan Central, as reported in the *Railway Age Gazette* of August 5, are a part of the 60 reported placed.

The St. Paul & Des Moines, as reported in the *Railway Age Gazette* of August 5, has ordered two consolidation locomotives from the Lima Locomotive & Machine Co., for delivery in October.

General Dimensions.

Weight on drivers	155,000 lbs.
Weight, total	175,000 lbs.
Cylinders	20 in. x 28 in.
Diameter of drivers	.56 "
Boiler diameter	.67 $\frac{1}{2}$ in. x 75 $\frac{1}{2}$ "
" type	Extended wagon top
" working steam pressure	200 lbs.
Firebox	96 in. x 72 in.
Tubes, number	308
" diameter	.2 in.
" length	14 ft.
Heating surface, tubes	2,244 sq. ft.
" " firebox	156
" " total	2,400 "
Water capacity	7,000 gals.
Coal capacity	12 tons

Special Equipment.

Valve gear	Walschaert
Air brakes	Westinghouse No. 6, E. T.
Draft gear	Westinghouse friction
Couplers	Simplex
Packing	U. S. Metallic
Injectors	Ohio
Lubricators	Detroit
Sanders	Leach air
Gages	Ashcroft
Safety valves	Kunkle
Tires	Midvale
Wheel center	Cast steel

CAR BUILDING.

The Chicago & Alton is asking prices on 3,000 fifty-ton steel hopper cars.

The Dairy Shippers Despatch is again asking for figures for 100 refrigerator cars.

The New England Coal & Gas Co., Shawmut Bank building, Boston, Mass., is asking prices on 300 hopper cars.

The Nevada Northern is said to be in the market for a number of freight cars. This item is not confirmed.

The Havana Central is making inquiries for 100 thirty-ton flat cars and from 50 to 150 thirty-ton box cars. All of this equipment is to have steel underframes.

The New York Central Lines have been figuring on new box, gondola and hopper cars, about 8,000 in all, but definite action will probably not be taken before January 1.

The Illinois Central, reported in the *Railway Age Gazette* of June 24 as being in the market for two observation-parlor, two passenger-baggage, two cafe-parlor and two cafe-coach cars, has placed this order with the Pullman Company.

MACHINERY AND TOOLS.

The Wheeling & Lake Erie has ordered most of the machinery and tools as reported in the *Railway Age Gazette* of July 8.

The Lake Shore & Michigan Southern, reported in the *Railway Age Gazette* of August 5 as being in the market for 15 cranes, has placed this order with Manning, Maxwell & Moore, New York. The order consists of two 150-ton, three 40-ton, nine 10-ton and one five-ton electric traveler of the Shaw type.

IRON AND STEEL.

The Wabash has ordered 1,500 kegs of spikes.

The Baltimore & Ohio has ordered 2,000 kegs of spikes.

The Midland Railway will soon be in the market for rails.

The Sind Light Railway is in the market for 2,200 tons of rails.

The Queensland Railway is in the market for 11,000 tons of rails.

The East Indian Railway has ordered 2,000 tons of fish plates from Dorman, Long & Company.

The Denver & Rio Grande has ordered 700 tons of structural steel from the American Bridge Co.

The Oregon Railway & Navigation Co. has ordered 400 tons of structural steel from Milliken Bros.

The Cincinnati, Hamilton & Dayton has ordered 350 tons of bridge steel from the King Bridge Co., Cleveland, Ohio.

The Great Northern has ordered 900 tons of structural steel for ore spouts at Allouez Bay, Wis., from the Minneapolis Steel & Machinery Co.

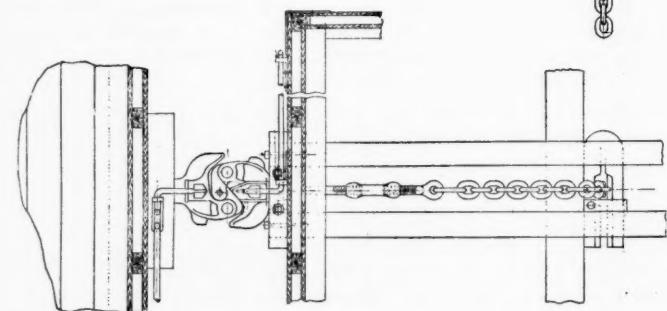
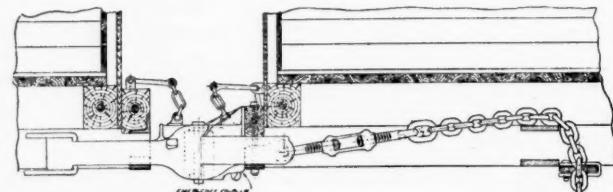
The Canadian Pacific has ordered the structural steel for the new annex to its Windsor street station, Montreal, from the Dominion Bridge Company.

The Chicago, Weatherford & Brazos Valley is in the market for 60-lb. rails to be used in relaying 40 miles of its line. Rails sufficient for the work on 10 miles must be delivered within 45 days.

General Conditions in Steel.—There seems every reason to believe that the reported cut to \$26.50 per ton on a lot of rails recently sold by the Illinois Steel Co. is not based on facts. The steel company and the Corporation are both emphatic in their denials. The report probably grew out of a quotation for an export order, in which concessions are usually made.

New Emergency Coupling Device.

Occasionally drawbar attachments on old cars of wooden construction are pulled out. This makes necessary heavy repairs which mean delay and consequent damage to car lading. Until the repairs, however, can be made, when time is an important item, the cars are often chained together. This is always dangerous and never satisfactory. The Spencer-Otis Company is putting on the market the economy emergency coupling device, of which over 500 have been sold to one large western railway system. The device consists of a M. C. B. coupler of approved



Application of Economy Emergency Coupler.

design, with a special shank. Attached to this is a chain with turn buckle having a yoke forging in which one end of the chain is locked. This yoke forging is put under the intermediate sills of the lock and the chain is locked into the slot in the yoke. Then, by means of the turn buckle the coupler is pulled tightly into place when the car is ready to proceed in the train to destination. The utility of such a device is evident and it seems that in a very short time every wrecking train will carry a number of them and every freight train should have one or more in the caboose.